VPDES PERMIT PROGRAM FACT SHEET

FILE NO: 650

This document gives pertinent information concerning the VPDES Permit listed below. This permit is being processed as a **MINOR MUNICIPAL** permit.

1. **PERMIT NO.: VA0024457** **EXPIRATION DATE: 8/22/09**

2. **FACILITY NAME AND LOCAL MAILING ADDRESS**

US-NASA Wallops Flight Facility
Building F6
Wallops Island, VA 23337

FACILITY LOCATION ADDRESS (IF DIFFERENT)

Wallops Island, VA 23337

CONTACT AT FACILITY:
NAME: Ms. Caroline R. Massey
TITLE: Asst. Director Management Operations
PHONE: (757) 824-1959

CONTACT AT LOCATION ADDRESS
NAME: Monica Borowitz
TITLE: Lab Supervisor
PHONE: (757) 824-1023

3. **OWNER CONTACT:** (TO RECEIVE PERMIT)
NAME: Ms. Caroline R. Massey
TITLE: Asst. Director Management Operations
COMPANY NAME: US-NASA Wallops Flight Facility
ADDRESS: Building F6
Wallops Island, VA 23337
PHONE: (757) 824-1959

CONSULTANT CONTACT: NA
NAME:
FIRM NAME:

4. **PERMIT DRAFTED BY:** DEQ, Water Permits, Regional Office

Permit Writer(s): Sauer Date(s): June, 2009
Reviewed By: McConathy Date(s): 06/30/2009

5. **PERMIT ACTION:**

( ) Issuance (X) Reissuance ( ) Revoke & Reissue ( ) Owner Modification
( ) Board Modification ( ) Change of Ownership/Name [Effective Date:]

6. **SUMMARY OF SPECIFIC ATTACHMENTS LABELED AS:**

Attachment 1	Site Inspection Report/Memorandum
Attachment 2	Discharge Location/Topographic Map
Attachment 3	Schematic/Plans & Specs/Site Map/Water Balance
Attachment 4	TABLE I - Discharge/Outfall Description
Attachment 5	TABLE II - Effluent Monitoring/Limitations
Attachment 6	Effluent Limitations/Monitoring Rationale/Suitable Data/Antidegradation/Antibacksliding
Attachment 7	Special Conditions Rationale
Attachment 8	Material Stored
Attachment 9	Receiving Waters Info./Tier Determination/STORET Data/Stream Modeling / 303(d) Listed Segments
Attachment 10	TABLE III(a) and TABLE III(b) - Change Sheets
Attachment 11	NPDES Industrial Permit Rating Worksheet and EPA Permit Checklist
Attachment 12	Chronology Sheet
Attachment 13	Pertinent Correspondence / Public Participation

APPLICATION COMPLETE: March 3, 2009 upon VDH

7. **PERMIT CHARACTERIZATION**: (Check as many as appropriate)

(X) Existing Discharge
( ) Proposed Discharge
(X) Municipal
SIC Code(s) 9661
( ) Industrial
SIC Code(s)
( ) POTW
(X) PVOTW
( ) Private
(X) Federal
( ) State
( ) Publicly-Owned Industrial

(X) Effluent Limited
(X) Water Quality Limited
( ) WET Limit
( ) Interim Limits in Permit
( ) Interim Limits in Other Document
( ) Compliance Schedule Required
( ) Site Specific WQ Criteria
( ) Variance to WQ Standards
( ) Water Effects Ratio
( ) Discharge to 303(d) Listed Segment
( ) Toxics Management Program Required
( ) Toxics Reduction Evaluation
( ) Storm Water Management Plan
( ) Pretreatment Program Required
( ) Possible Interstate Effect
( ) CBP Significant Dischargers List

8. **RECEIVING WATERS CLASSIFICATION**: River basin information:

Outfall No. 001

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	2.80
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II (Limited as fresh water receiving stream)
Special Standard(s):	a
Tidal:	No

Outfall No. 003

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	0.80
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 004

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	3.1
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 005

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	0.5
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 006

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	0.32
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

RECEIVING WATERS CLASSIFICATION: River basin information (continued):

Outfall No. 007

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	0.33
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 008

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	1.45
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 009

Receiving Stream:	UTRIB to Jenney's Gut
River Mile:	0.40
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 010

Receiving Stream:	UTRIB to Jenney's Gut
River Mile:	0.47
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 012

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	1.90
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

RECEIVING WATERS CLASSIFICATION: **River basin information (continued):**

Outfall No. 013

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	0.48
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 014

Receiving Stream:	UTRIB to Simoneaston Bay
River Mile:	0.56
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall No. 302

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	0.35 Miles to Outfall 003
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall Nos. 021, 022, 023, 024

Receiving Stream:	UTRIB to Little Mosquito Creek
River Mile:	
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall Nos. 031, 032, 033, 034, 035

Receiving Stream:	Cat Creek
River Mile:	
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

Outfall Nos. 036, 037, 038, 039

Receiving Stream:	Hog Creek
River Mile:	
Basin:	Chesapeake Bay, Atlantic and Small Coastal
Subbasin:	NA
Section:	1b
Class:	II
Special Standard(s):	a
Tidal:	Yes

9. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing municipal discharge resulting from the discharge of treated domestic sewage and storm water from a space research and development facility.

10. **LICENSED OPERATOR REQUIREMENTS:** ( ) No (X) Yes Class: II

11. **RELIABILITY CLASS: I**

12. **SITE INSPECTION DATE:** 7/25/07 **REPORT DATE:** 7/27/07

Performed By: S. Thomas

SEE ATTACHMENT 1

13. **DISCHARGE(S) LOCATION DESCRIPTION:** Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Hallwood, Chincoteague West Quadrant No.:142A, 141B **SEE ATTACHMENT 2**

14. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

SEE ATTACHMENT 3

15. **DISCHARGE DESCRIPTION:** Describe each discharge originating from this facility.

SEE ATTACHMENT 4

16. **COMBINED TOTAL FLOW:**

TOTAL: 0.3 MGD (for public notice)

NONPROCESS/RAINFALL DEPENDENT FLOW: _____ (Est.)

DESIGN FLOW: 0.3 MGD (MUN.)

17. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:**
(Check all which are appropriate)

__X__ State Water Control Law
__X__ Clean Water Act
__X__ VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
__X__ EPA NPDES Regulation (Federal Register)
_____ EPA Effluent Guidelines (40 CFR 133 or 400 - 471)
__X__ Water Quality Standards (9 VAC 25-260-5 et seq.)
__X__ Wasteload Allocation from a TMDL or River Basin Plan

18. **EFFLUENT LIMITATIONS/MONITORING:** Provide all limitations and monitoring requirements being placed on each outfall.

SEE TABLE II - ATTACHMENT 5

19. **EFFLUENT LIMITATIONS/MONITORING RATIONALE:** Attach any analyses of an outfall by individual toxic parameter. As a minimum, it will include: statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); wasteload allocation (acute, chronic and human health); effluent limitations determination; input data listing. Include all calculations used for each outfall and set of effluent limits and those used in any model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limiting internal waste streams and indicator pollutants. Attach chlorine mass balance calculations, if performed. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested variances or alternatives to required permit conditions/limitations. This includes, but is not limited to: waivers from testing requirements; variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

N/A

SUITABLE DATA: In what, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

The receiving stream has been classified as tier 1; therefore, no further review is needed. Permit limits have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).

SEE ATTACHMENT 6

20. **SPECIAL CONDITIONS RATIONALE**: Provide a rationale for each of the permit's special conditions.

SEE ATTACHMENT 7

21. **TOXICS MONITORING/TOXICS REDUCTION AND WET LIMIT SPECIAL CONDITIONS RATIONALE**: Provide the justification for any toxics monitoring program and/or toxics reduction program and WET limit.

SEE ATTACHMENT N/A

22. **SLUDGE DISPOSAL PLAN**: Provide a description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Sludge from the WWTP is dried in drying beds on site for at least 90 days then transported to the Accomack County North Landfill for final disposal.

23. **MATERIAL STORED**: List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

SEE ATTACHMENT 8

24. **RECEIVING WATERS INFORMATION**: Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260-5 et seq.). **Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied.** Attach any memoranda or other information which helped to develop permit conditions (i.e. tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 9

25 305(b)/**303(d) Listed Segments**: Indicate if the facility discharges to a segment that is listed on the current 303(d) list and, if so, provide all appropriate information/calculations.

This facility discharges directly to an unnamed tributary to Little Mosquito Creek. This receiving stream segment has been listed on the 305(b)/303(d) list for protection of shell fish. A TMDL has been prepared and approved for this stream segment. The permit has water quality-based limits for fecal coliform which have been achieved and require compliance with the standard prior to discharge. Given these limits, this facility can neither cause or contribute to a violation of the standards. The permit contains a TMDL reopener clause which will allow these limits to be modified, in compliance with Section 303(d)(4) of the Act if the TMDL is revised and approved.

26. **CHANGES TO PERMIT**: Use **TABLE III(a)** to record any changes from the previous permit and the rationale for those changes. Use **TABLE III(b)** to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 10

27. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

N/A - This is a municipal facility.

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT:** Document any comments received from DEQ planning.

The discharge is in conformance with the existing planning documents for the area.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

VDH/DSS COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and the Div. of Shellfish Sanitation and noted how resolved.

The VDH reviewed the application and waived their right to comment and/or object on the adequacy of the draft permit.

The DSS provided comments by letter dated March 3, 2009. The DSS stated that the project will go to condemned shellfish waters and will not cause an increase in the size or type of the closure.

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

EPA has no objections to the adequacy of the draft permit.

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

Not Applicable.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

Not Applicable.

OTHER COMMENTS RECEIVED FROM RIPARIAN OWNERS/CITIZENS ON DRAFT PERMIT: Document any comments received from other sources and note how resolved.

The application and draft permit have received public notice in accordance with the VPDES Permit Regulation, and no comments were received.

PUBLIC NOTICE INFORMATION: Comment Period: Start Date July 29, 2009
End Date August 28, 2009

Persons may comment in writing or by e-mail to the DEQ on the proposed issuance/reissuance/modification of the permit within 30 days from the date of the first notice. Address all comments to the contact person listed below. Written or e-mail comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requestor's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Mark H. Sauer at: Department of Environmental Quality (DEQ), Tidewater Regional Office, 5636 Southern Boulevard, Virginia Beach, VA 23462. Telephone: 757-518-2105 E-mail: mark.sauer@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed issuance/reissuance/modification. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

30. **ADDITIONAL FACT SHEET COMMENTS/PERTINENT INFORMATION:**

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2103
www.deq.virginia.gov

L. Preston Bryant, Jr
Secretary of Natural Resources

David K. Paylor
Director

Francis L. Daniel
Regional Director

AUG 24 2007

Mr. Glenn D. Lilly
Head Facilities Management Branch
NASA Wallops Island Flight Facility
Building N-161 Code 228
Wallops Island, VA 23337

Re: Technical Inspection Report
Permit No. VA0024457

Dear Mr. Lilly:

Enclosed is a copy of the technical inspection report prepared for the inspection conducted on July 25, 2007. There were no recommendations noted for this report. My appreciation and thanks to your staff for the cooperation and assistance readily given. If you have any questions regarding this report, please feel free to contact me at the above address or telephone (757) 414-0750.

Sincerely,

Stephen J. Thomas
Environmental Specialist II

Enclosure

cc: DEQ/OWCP: Steve Stell
DEQ/TRO: File

Facility:	NASA WALLOPS ISLAND LIGHT FACILITY
County/city:	ACCOMACK

VPDES NO.	VA0024457

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART 1

Inspection date:	**7/25/2007**	Date form completed:	**7/27/2007**
Inspection by:	**Stephen J. Thomas**	Inspection agency:	**DEQ/TRO**
Time Spent With Inspection & Report:	**7 Hours**	Announced Inspection:	[**x**] Yes [ ] No
Reviewed by: **Kenneth T. Raum** KTR		Photographs taken at site?	[**x**] Yes [ ] No
Present at inspection:	**Josh Bundick, Paul Bull, Patrick Talbot, Clifford Taylor & Jack Chandler**		

FACILITY TYPE:	FACILITY CLASS:
( ) Municipal	( ) Major
( ) Industrial	(**x**) Minor
(**x**) Federal	( ) Small
( ) VPA/NDC	( ) High Priority ( ) Low Priority

TYPE OF INSPECTION:					
Routine	**x**	Reinspection		Compliance/assistance/complaint	
Date of previous inspection:	**6/7/2005**	Agency:	**DEQ/TRO**		

Population Served:	**1200**	Connections Served:	**Unknown**					
Last Month Average: Influent May 2007	BOD_5 (mg/l)	**141**	TSS (mg/l)	**98**	Flow (MGD)			
	Other: **pH 6.8 – 7.5**							
Last Month Average: Effluent June 2007	BOD_5 (mg/l)	**< 5**	TSS (mg/l)	**< 1**	Flow (MGD)	**.050**	TKN (mg/l)	**.72**
	Other: pH: 6.5 -6.8 DO 7.1 mg/l Fecal <3							
Last Quarter Average: Effluent April – June 2007	BOD_5 (mg/l)	**<5**	TSS (mg/l)	**< 1**	Flow (MGD)	**.046**	TKN (mg/l)	**.75**
	Other: **pH 6.4 – 6.9 DO 7.6 mg/l Fecal <2**							

Data verified in preface:	Updated?		NO CHANGES?	x
Has there been any new construction?	YES		NO	x
If yes, were the plans and specifications approved?	YES		NO	
DEQ approval date:				

COPIES TO: (**x**) DEQ/TRO; (x) DEQ/OWCP; (x) OWNER; ( ) OPERATOR; ( ) EPA-Region III; ( ) Other:

FACILITY: NASA Wallops Island Flight Facility VA0024457

PLANT OPERATION AND MAINTENANCE													
1.	Class/number of licensed operators:	I		II	5	III		IV	2	Trainee			
2.	Hours per day plant manned?	16 Hours											
3.	Describe adequacy of staffing	GOOD	x	AVERAGE		POOR							
4.	Does the plant have an established program for training personnel	YES		NO	x								
5.	Describe the adequacy of training	GOOD		AVERAGE		POOR							
6.	Are preventative maintenance tasks scheduled	YES	x	NO									
7.	Describe the adequacy of maintenance	GOOD	x	AVERAGE		POOR							
8.	Does the plant experience any organic/hydraulic overloading?	YES		NO	x								
	If yes, identify cause/impact on plant												
9.	Any bypassing since last inspection?	YES		NO	x								
10.	Is the standby electrical generator operational?	YES	x	NO		NA							
11.	How often is the standby generator exercised?	Weekly											
	Power transfer switch?	Monthly		ALARM SYSTEM?		N/A							
12.	When was the cross connection last tested on the potable supply?	10/26/06											
13.	Is the STP alarm system operational?	YES	x	NO		NA							
14.	Is sludge disposed in accordance with an approved SMP	YES	x	NO		NA							
15.	Is septage received by the facility?	YES	x	NO									
	Is septage loading controlled?	YES	x	NO		NA							
	Are records maintained?	YES	x	NO		NA							

OVERALL APPEARANCE OF FACILITY	GOOD	x	AVERAGE		POOR	

COMMENTS:	**The facility was found in good overall condition.**

	PROBLEMS IDENTIFIED AT LAST INSPECTION:	CORRECTED	NOT CORRECTED
	No problems were noted during the last inspection.		

SUMMARY

	INSPECTION COMMENTS:
	This inspection found the wastewater treatment plant and associated components in satisfactory operating condition during my inspection. The treatment plant appears to be well maintained and operated.
	The facility has a permit required copper compliance limit deadline of August 23, 2008. Design and construction of a metals removing process for the facility is scheduled to begin soon. The facility has submitted the required quarterly progress reports to DEQ.
	During the inspection, it was discovered that your facility is still performing UV disinfection system compliance requirements. These requirements were outlined in the Certificate To Operate for the existing treatment plant dated July 12, 1999. The performance period was for 12 consecutive months upon issuance of the CTO. Your UV system has proved it can meet discharge effluent limitations for fecal Coliform, and the additional monitoring and reporting can be discontinued on 8/1/2007.
	I would like to thank the Mr. Josh Bundick, Mr. Clifford Taylor, Mr. Jack Chandler, Mr. Paul Bull, and Mr. Patrick Talbot, and for their cooperation during the inspection.

	COMPLIANCE RECOMMENDATIONS FOR ACTION
	There are no recommendations for action at this time.

DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTEWATER FACILITY
INSPECTION REPORT
PART II

Unit Process Evaluation Summary Sheet*

UNIT PROCESS	APPLICABLE	COMMENTS
SEWAGE PUMPING	x	
FLOW MEASUREMENT	x	
SCREENING/COMMINUTION	x	
GRIT REMOVAL	x	
FLOW EQUALIZATION	x	
PONDS/LAGOONS		
OIL/WATER SEPARATOR		
PRIMARY SEDIMENTATION		
ACTIVATED SLUDGE AERATION	x	
TRICKLING FILTERS		
ROTATING BIOLOGICAL CONTACTORS		
SEPTIC TANK/SAND FILTER / IMHOFF TANK		
SECONDARY SEDIMENTATION	x	
RAPID MIX/FLOCCULATION		
TERTIARY SEDIMENTATION		
FILTRATION	x	
MICRO-SCREENING		
ACTIVATED CARBON ADSORPTION		
CHLORINATION		
DECHLORINATION		
OZONATION		
ULTRAVIOLET DISINFECTION	x	
POST AERATION	x	
LAND APPLICATION-EFFLUENT		
EFFLUENT/PLANT OUTFALL	x	
SLUDGE PUMPING		
FLOTATION THICKENING (DAF)		
GRAVITY THICKENING		
AEROBIC DIGESTION	x	
ANAEROBIC DIGESTION		
LIME STABILIZATION		
CENTRIFUGATION		
PRESSURE FILTRATION (SLUDGE)		
VACUUM FILTRATION		
DRYING BEDS	x	
THERMAL TREATMENT		
INCINERATION		
COMPOSTING		
LAND APPLICATION-SLUDGE		

STANDARD COMMENTS:

1. UNIT NEEDS ATTENTION
2. ABNORMAL INFLUENT/EFFLUENT
3. EVIDENCE OF EQUIPMENT FAILURE
4. UNAPPROVED MODIFICATION OR TEMPORARY REPAIR
5. EVIDENCE OF PROCESS UPSET

***REFER TO INDIVIDUAL UNIT PROCESS EVALUATION FORMS**

UNIT PROCESS:	**PUMP STATION (CONTINUED)**

								YES	NO	NA
24.	CONTINUOUS OPERABILITY PROVISIONS		Generator	x	Portable Pump					
	(1) Day Storage		(2) Sources of Electricity		Other:	x				
25.	Does the station have a bypass?								x	
26.	Evidence of bypass in use?									x
27.	Can the bypass be disinfected?									x
28.	Can the bypass be measured?									x
29.	How often is the station checked?		**Daily**							

GENERAL CONDITION:	GOOD		FAIR	x	POOR	

COMMENTS:	**All stations are receiving new submersible pumps and the ventilation fans are being reconditioned.**

FACILITY: NASA Wallops Island Flight Facility **VA0024457**

UNIT PROCESS:	**ACTIVATED SLUDGE**

			YES	NO	NA
1.	Number of aeration units	**2**			
2.	Number units in operation	**1**			
3.	Mode of operation:	**Extended Aeration**			
4.	Proper flow distribution between units				x
5.	Foam control operational		x		
6.	Scum control present		x		
7.	Dead spots			x	
8.	Excessive foam			x	
9.	Poor aeration			x	
10.	Excessive scum			x	
11.	Aeration equipment malfunction			x	
12.	Other problem(s):			x	
13.	Effluent control devices working properly (OXIDATION DITCHES)				x

14. *MIXED LIQUOR CHARACTERISTICS AS AVAILABLE:*

pH (s.u.)	**6.6**	MLSS (mg/l)	**3248**	DO (mg/l)	**4.8**	SVI	
Odor	**Slight septic**	Settleability (ml/l)		**24 % (30 min)**		SDI	
Color	**Dark Brown**						

15. *RETURN/WASTE SLUDGE RATES:*

Return Rate	**100%**	Waste Rate	**700 GPD**	Waste Frequency	**Daily**

16. *AERATION SYSTEM CONTROL:*

Time Clock		Manual Feed		Continuous Feed	x
Other:					

GENERAL CONDITION:	GOOD	x	FAIR		POOR	

COMMENTS:	**The plant only uses one aeration basin at this time, due to low influent flow into the system. The aeration basins are switched over each year. The basin that is not in use is cleaned and maintenance is performed at this time. The basins are scheduled to be switched the weekend of July 21, 2007.**

UNIT PROCESS:	**ULTRAVIOLET (UV) DISINFECTION**

				YES	NO	NA
1.	Number of UV lamps/assemblies	**32**				
2.	Number units in operation	**16**				
3.	Type of UV system and design dosage	**Trojan 3000**				
4.	Method of UV intensity monitoring	**UV Intensity Meter**				
5.	Proper flow distribution between units?					x
6.	Adequate ventilation of ballast control boxes			x		
7.	Indication of on/off status of all lamps provided			x		
8.	Lamp assemblies easily removed for maintenance			x		
9.	Records of lamp operating hours and replacement dates provided			x		
	Routine cleaning system provided				x	
	System operating properly			x		
10.	Frequency of routine cleaning	**Once every two weeks**				
11.	Lamp energy control system operating properly			x		
	Date of last system overhaul	**7-20-2007**				
	UV unit completely drained				x	
	All surfaces cleaned			x		
	UV transmissibility checked			x		
	Output of selected lamps checked				x	
	Output of tested lamps	**Unknown**				
	Total operating hours of oldest lamp/assembly	**Unknown**				
12.	Number of spare lamps/ballasts available	**16**	**2**			
13.	UV protective eyeglasses provided			x		

GENERAL CONDITION:	GOOD	x	FAIR		POOR	

COMMENTS:	**10. When the UV intensity meter drops to 4.0 the unit is cleaned.**

UNIT PROCESS:	**EFFLUENT/PLANT OUTFALL # 001**

										YES	NO	NA
1.	Type of outfall			Shore Based	x	Submerged						
	TYPE IF SHORE BASED:											
2.	Wingwall		Headwall	x	Rip Rap		Pipe					
3.	Flapper valve present?										x	
4.	Erosion of bank area?										x	
5.	Effluent plume visible?										x	
	Condition of outfall and the supporting structure?											
6.	GOOD		FAIR	x	POOR							
	FINAL EFFLUENT, EVIDENCE OF FOLLOWING PROBLEMS?											
	Oil sheen?										x	
	Grease?										x	
	Sludge bar?										x	
	Turbid effluent?										x	
	Visible foam?										x	
7.	Unusual color?										x	

GENERAL CONDITION:	GOOD	x	FAIR		POOR	

COMMENTS:	**The receiving stream looked normal , no sludge deposits were noted in the stream bed. The effluent at the outfall was clear at the time of the inspection.**

UNIT PROCESS:	**OUTFALL # 003 (STORMWATER)**

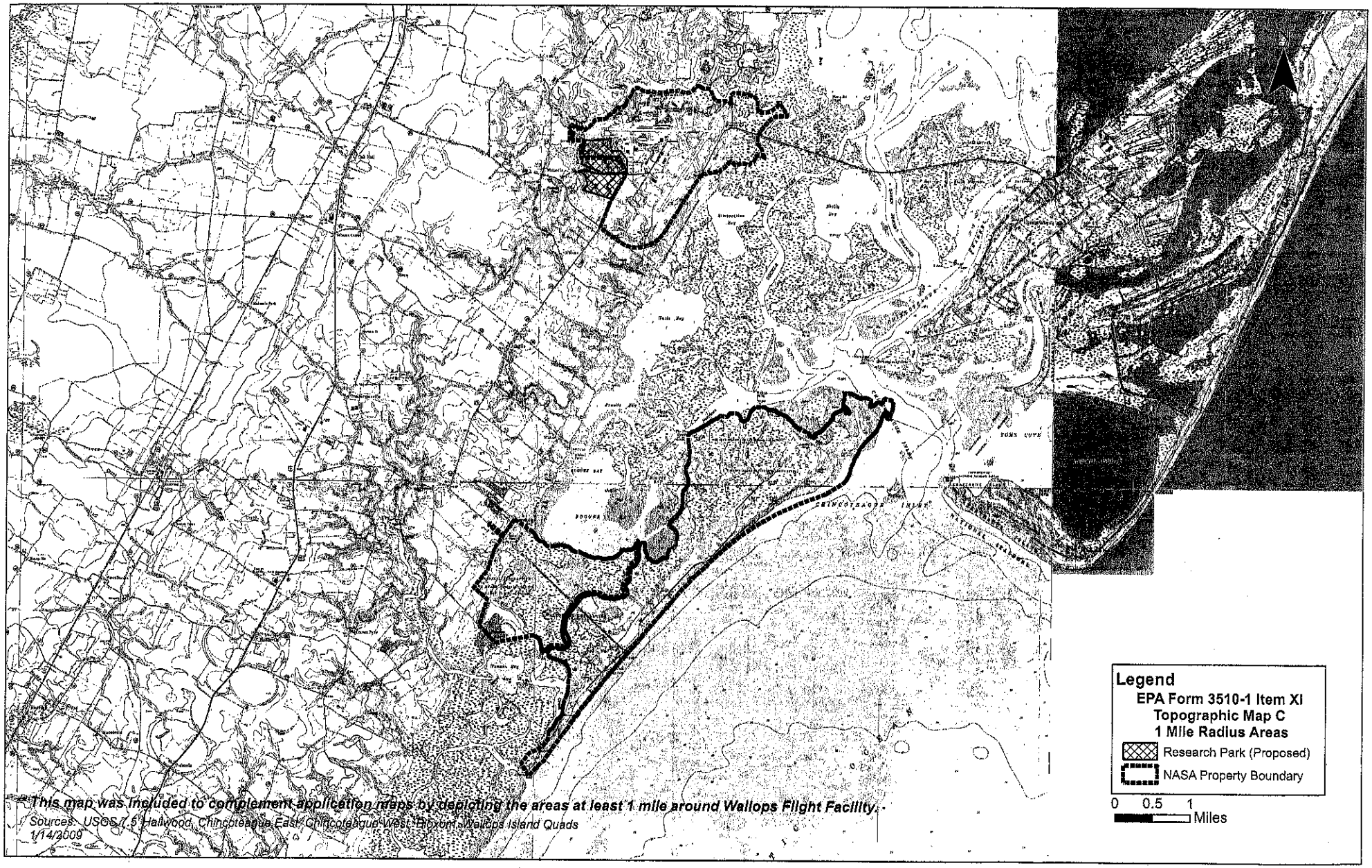
									YES	NO	NA
1.	Type of outfall		Shore Based	x	Submerged						
	TYPE IF SHORE BASED:										
2.	Wingwall		Headwall		Rip Rap		Pipe	x			
3.	Flapper valve present?									x	
4.	Erosion of bank area?									x	
5.	Effluent plume visible?									x	
	Condition of outfall and the supporting structure?										
6.	GOOD		FAIR	x	POOR						
	FINAL EFFLUENT, EVIDENCE OF FOLLOWING PROBLEMS?										
	Oil sheen?									x	
	Grease?									x	
	Sludge bar?									x	
	Turbid effluent?									x	
	Visible foam?									x	
7.	Unusual color? **(Orange colored bacterial growth is generally normal for this outfall)**									x	

GENERAL CONDITION:	GOOD		FAIR	x	POOR	

COMMENTS:	**A small clear flow with a trace amount of foam was visible at the outfall area.**

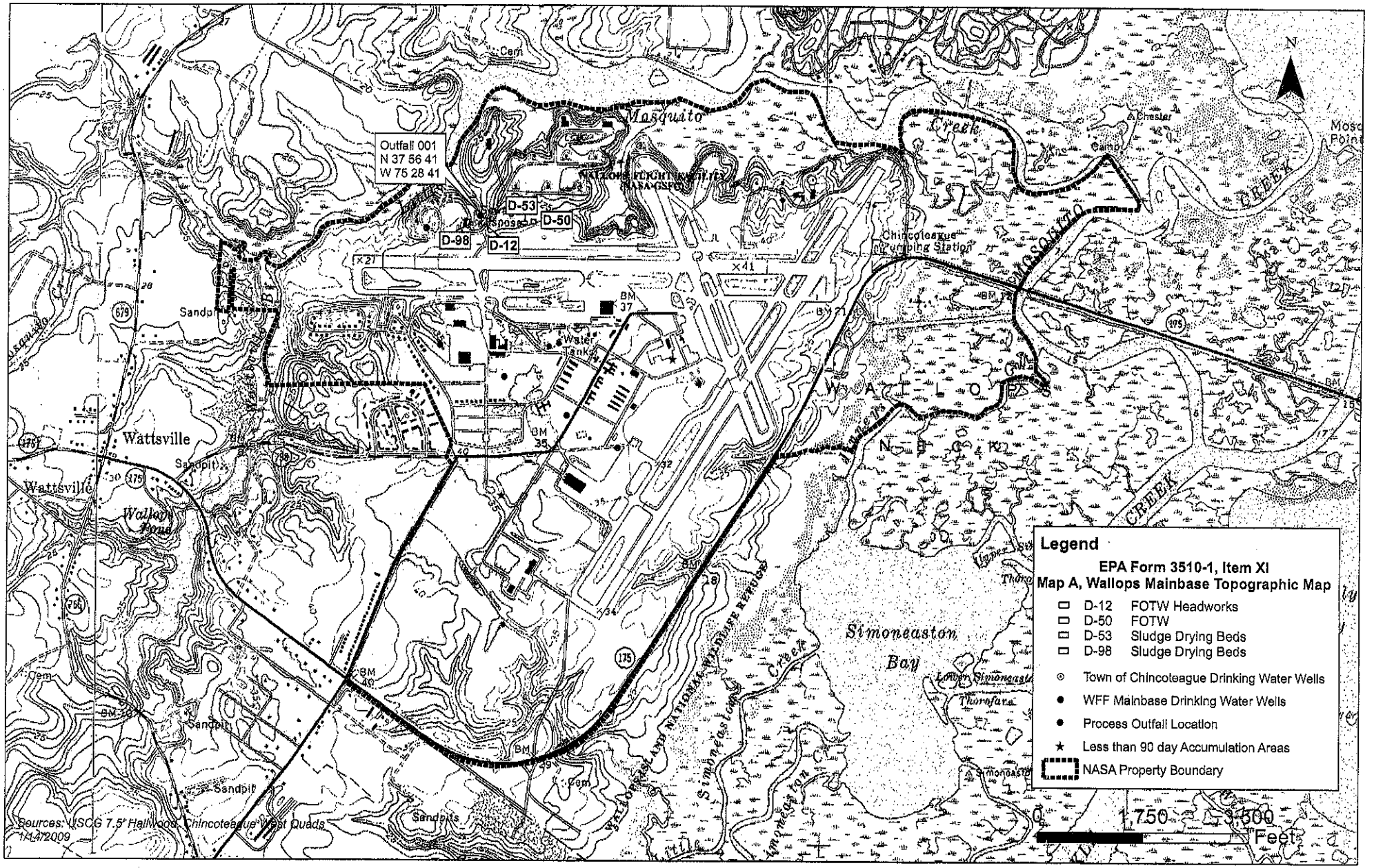
ATTACHMENT 2

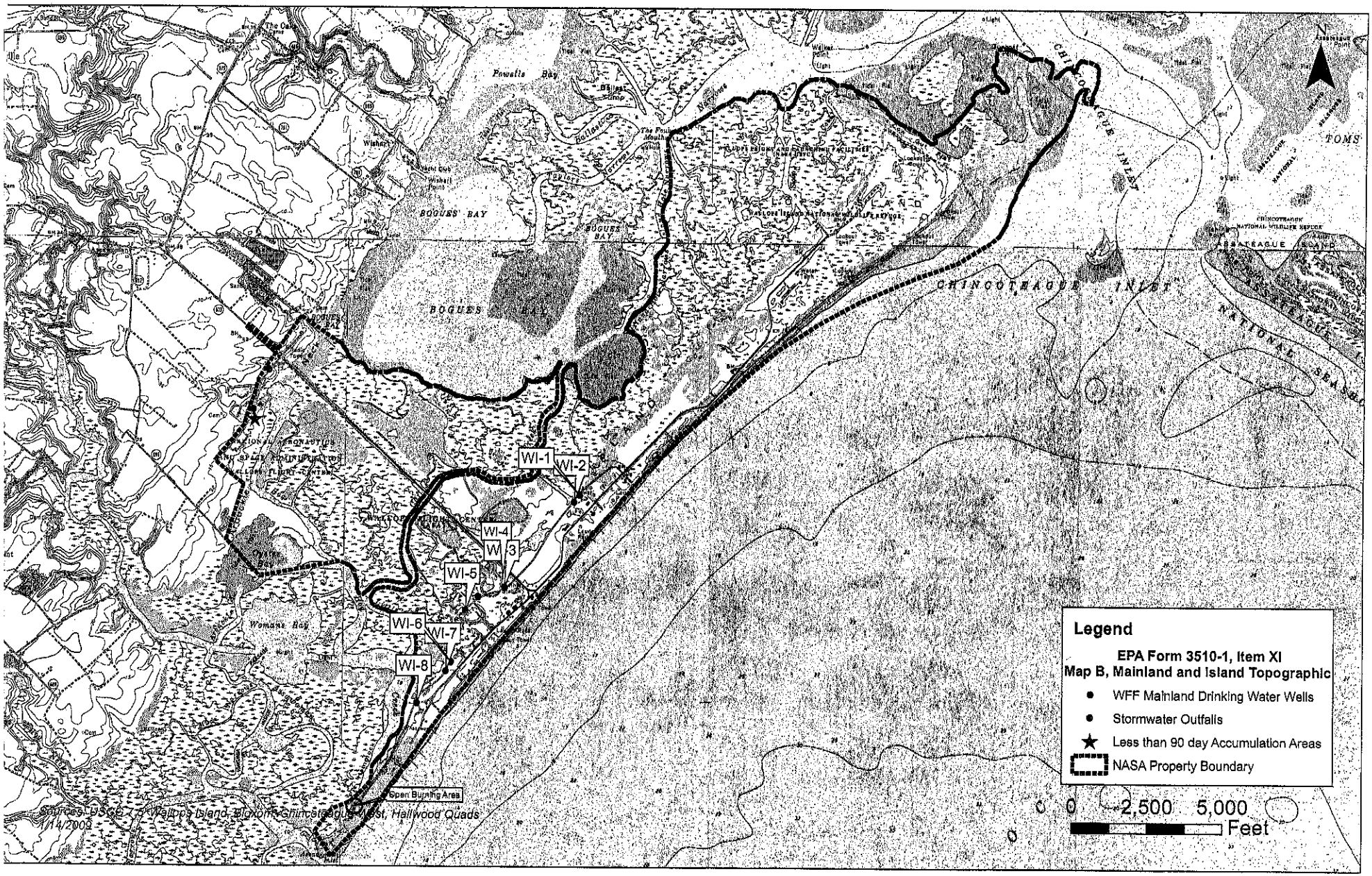
DISCHARGE LOCATION/TOPOGRAPHIC MAP



This map was included to complement application maps by depicting the areas at least 1 mile around Wallops Flight Facility.

Sources: USGS 7.5' Hallwood, Chincoteague East, Chincoteague West, Bloxom, Wallops Island Quads
1/14/2009


Outfall 001
N 37 56 41
W 75 28 41
D-53
D-50
D-98
D-12
Mosquito Creek
Chincoteague Pumping Station
Wattsville
Wallops Road
Simonsston Bay
Legend
EPA Form 3510-1, Item XI
Map A, Wallops Mainbase Topographic Map
D-12 FOTW Headworks
D-50 FOTW
D-53 Sludge Drying Beds
D-98 Sludge Drying Beds
Town of Chincoteague Drinking Water Wells
WFF Mainbase Drinking Water Wells
Process Outfall Location
Less than 90 day Accumulation Areas
NASA Property Boundary
1,750
3,500
Feet
Sources: USGS 7.5' Hallwood, Chincoteague West Quads
1/14/2009



WI-1 = 031
WI-2 = 032
WI-3 = 033

WI-4 = 034
WI-5 = 035
WI-6 = 036
WI-7 = 037
WI-8 = 038

039 is a proposed facility outfall at the Northern end of Wallops Island

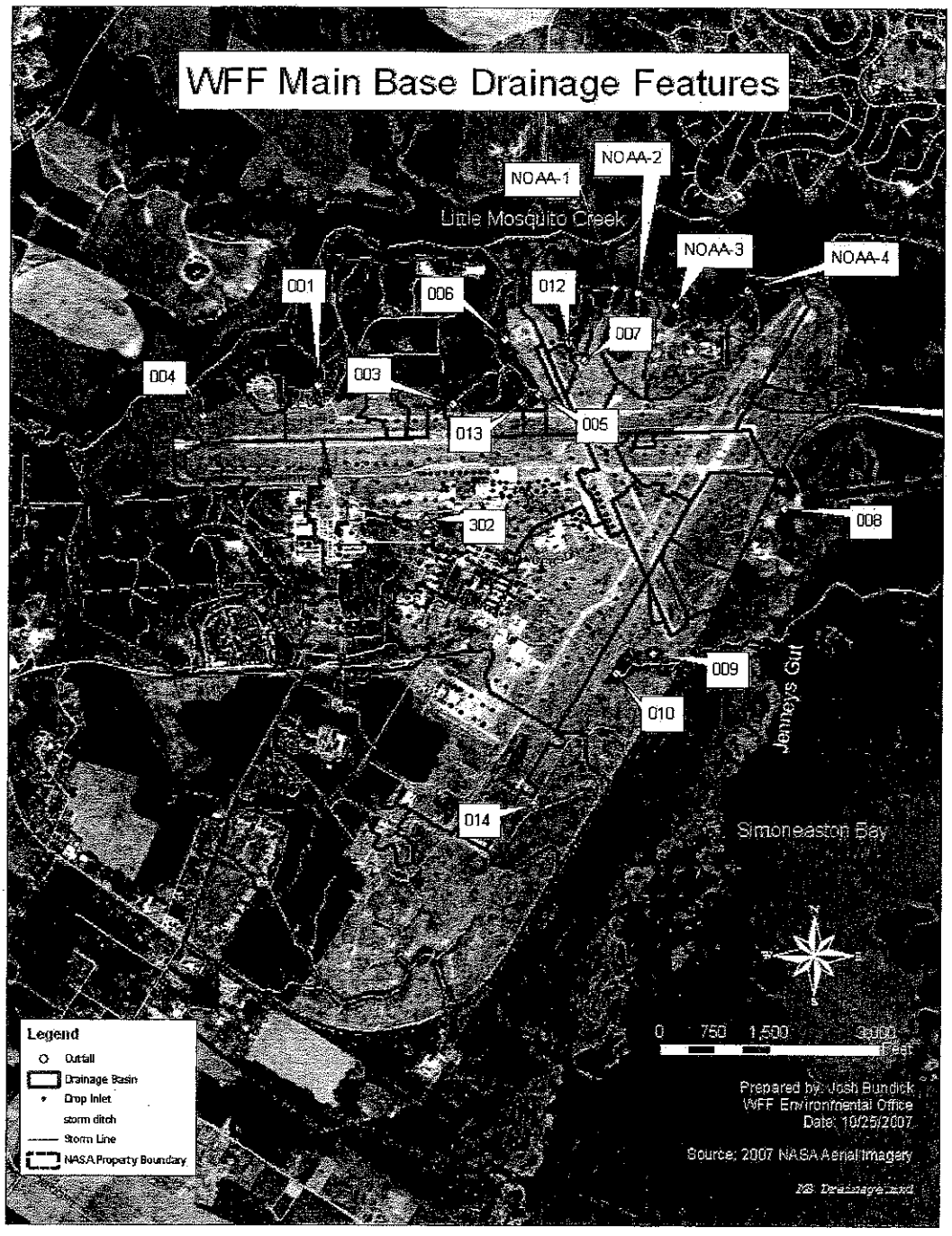

WFF Main Base Drainage Features
NOAA-1
NOAA-2
NOAA-3
NOAA-4
Little Mosquito Creek
001
006
012
007
004
003
005
013
302
008
009
010
014
Jenneys Gut
Simoneaston Bay
Legend
Outfall
Drainage Basin
Drop Inlet
storm ditch
Storm Line
NASA Property Boundary
0 750 1,500 3,000
Feet
Prepared by: Josh Bundick
WFF Environmental Office
Date: 10/25/2007
Source: 2007 NASA Aerial Imagery

Figure 2

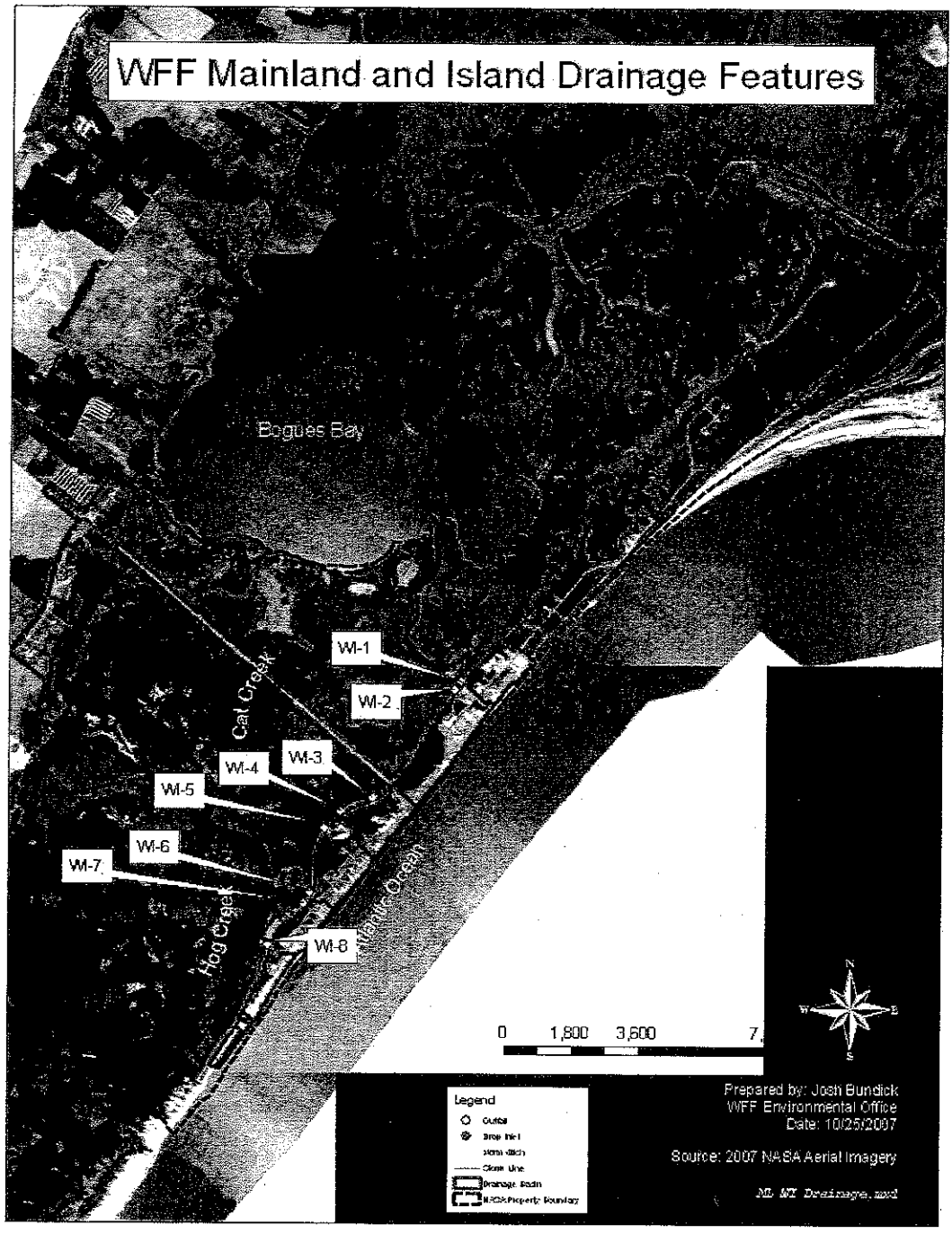
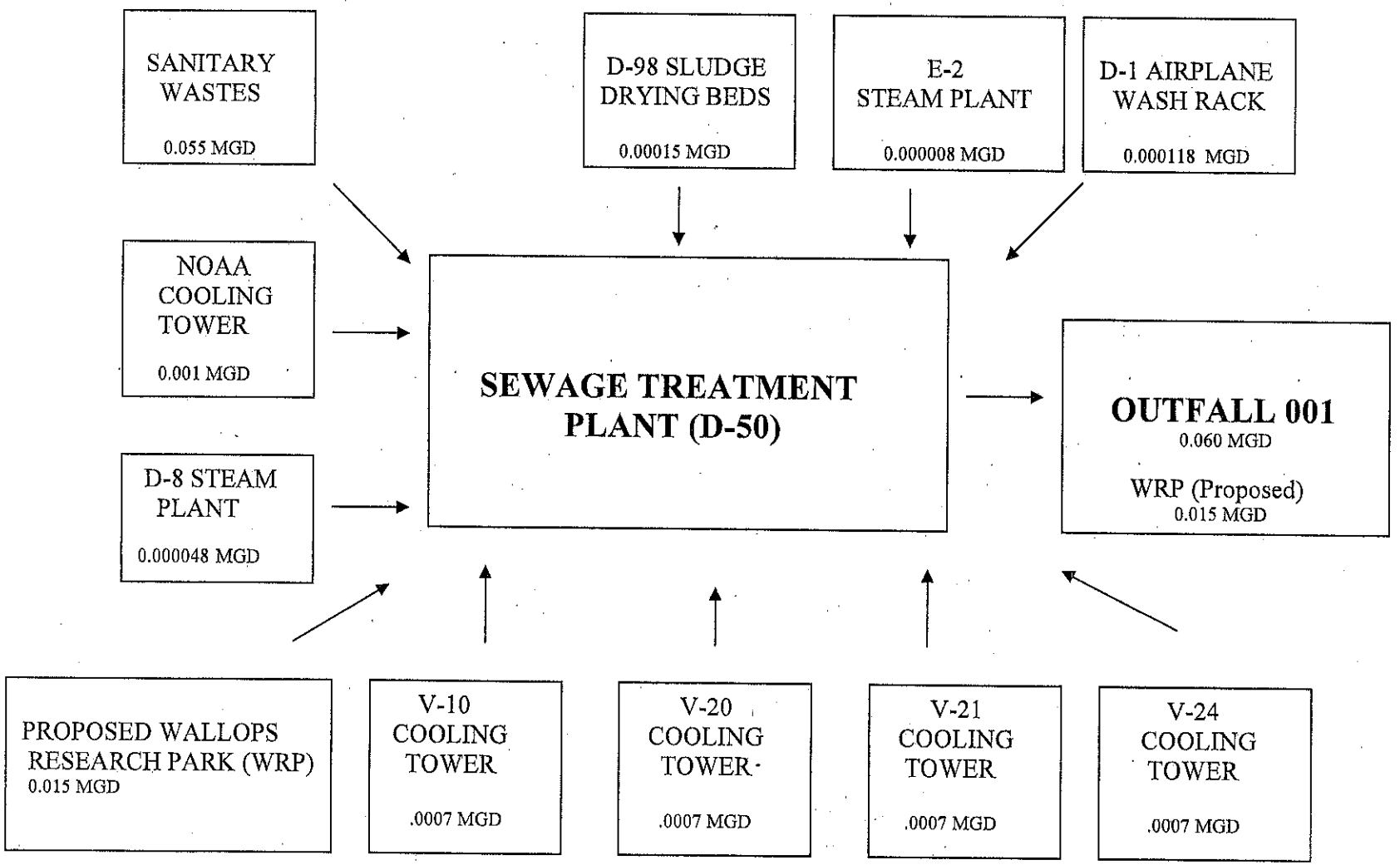

WFF Mainland and Island Drainage Features
Bogues Bay
Cat Creek
Hog Creek
Atlantic Ocean
WI-1
WI-2
WI-3
WI-4
WI-5
WI-6
WI-7
WI-8
0
1,800
3,600
Legend
Outfall
Drop Inlet
Storm ditch
Stream Line
Drainage Basin
WFF Property Boundary
Prepared by: Josh Bundick
WFF Environmental Office
Date: 10/25/2007
Source: 2007 NASA Aerial Imagery
ML MT Drainage.mxd

Figure 3

ATTACHMENT 3

SCHEMATIC/PLANS & SPECS/SITE MAP/ WATER BALANCE

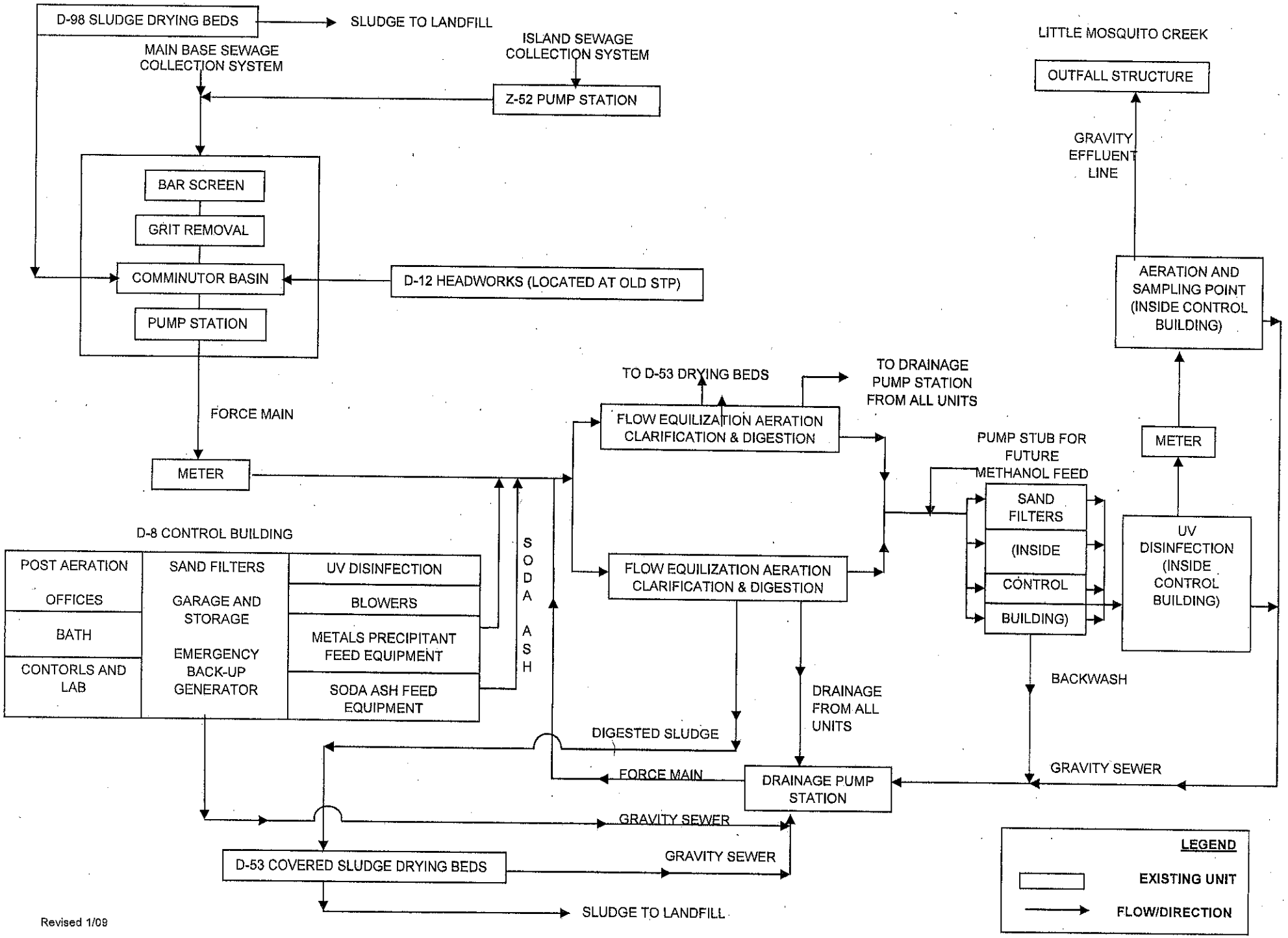
NASA WALLOPS FLIGHT FACILITY D-50 FOTW
WALLOPS ISLAND, VA
MAXIMUM FLOW NEXT 5 YEARS
FLOW DIAGRAM OUTFALL



MGD = Millions Gallons/Day

Revised 1/27/08

EPA FORM 3510-2A, PART B.3
NASA WFF FOTW FLOW SCHEMATIC DIAGRAM



Revised 1/09

UNIT PROCESS DESIGN SUMMARY

BYPASS BAR SCREEN (EXISTING)

NUMBER OF UNITS	1
SIZE OPENINGS	15mm
VOLUME (EACH UNIT)	3028 m^3/d

GRIT CHAMBER (EXISTING)

NUMBER OF UNITS	2
MAXIMUM FLOW (EACH UNIT)	3785 m^3/d

COMMUNTORS (EXISTING)

NUMBER OF UNITS	2
MAXIMUM FLOW (EACH UNIT)	946 m^3/d

INFLUENT PUMPS

NUMBER OF PUMPS	3
FLOW RATE OF LOW CAPACITY PUMP (EACH PUMP)	48.32 m^3/hr.
FLOW RATE OF HIGH CAPACITY PUMP	57 m^3/hr – 143.8 m^3/hr

COPPER REMOVAL SYSTEM

NUMBER OF PUMPS	2
FLOW RATE	0-52.0ml/min

ALKALINITY FEED SYSTEM

NUMBER OF UNITS	1
VOLUME OF SILO	14.200m^3
SOLUTION CONCENTRATION	3%
FIXED RATES (EACH PUMP) - ADF	0.492m^3/hr
- MDF	0.984m^3/hr
- PHF	1.476m^3/hr

FLOW EQUALIZATION ZONE

NUMBER OF UNITS	2
VOLUME (EACH UNIT)	189.3m^3
PERCENT OF ADF	33%
AIR REQUIREMENT (EACH UNIT)	48 L/S
AIRLIFT REQUIREMENTS (EACH UNIT)	17 L/S

AERATION ZONE

NUMBER OF UNITS	2
VOLUME (EACH UNIT)	543.7 m^3
LIQUID DEPTH	4.573m
MINIMUM ORGANIC LOADING (EACH UNIT)	0.104kg/m^3(d)
MAXIMUM ORGANIC LOADING (EACH UNIT)	0.240kg/m^3(d)
AIR REQUIREMENTS (EACH UNIT)	269 L/S

CLARIFICATION ZONE

NUMBER OF UNITS	2
OVERFLOW RATE (EACH UNIT) – PHF	36.6$m^3/m^2/d$
SURFACE AREA (EACH UNIT)	46.52m^2
LIQUID DEPTH	3.85m
DIMENSIONS	7.696m DIA.
SLUDGE AIRLIFT REQUIREMENTS (EACH UNIT)	15 L/S
SKIMMER AIR REQUIREMENTS (EACH UNIT)	3L/S

SLUDGE HOLDING ZONE

NUMBER OF UNITS	2
MAXIMUM FLOW	3785 m^3/d
AVERAGE DAILY SLUDGE PRODUCTION	72.6kg/d/UNIT
SOLIDS CONCENTRATION	2%
AIR REQUIREMENT (EACH UNIT)	41 L/S
DECANT AIRLIFT REQUIREMENTS (EACH UNIT)	12 L/S

FILTRATION

NUMBER OF UNITS		4
FILTER AREA (EACH UNT)		4.65 m^2
LOADING RATE (EACH UNIT)	ADF	0.0424m^3/m^2 MIN
	MDF	0.0848m^3/m^2 MIN
	PHF	0.127m^3/m^2 MIN

ULTRA VIOLET DISINFECTION

NUMBER OF MODULES	16
NUMBER OF LAMPS (EACH MODULE)	2
UV TRANSMISSION 253.7nm	65%

POST AERATION

NUMBER OF UNITS	2
LENGTHS (EACH UNIT)	2.742m
WIDTH (EACH UNIT)	1.219m
LIQUID DEPTH	1.829m
DETENTION TIME (EACH UNIT) – PHF	5 MIN.
AIR SUPPLY (EACH UNIT) – MDF	11.3 l/s

SLUDGE DRYING BEDS

NUMBER OF UNITS	4
DRYING AREA (EACH UNIT)	116.14 m^2
CAPACITY	114 kg/m^2 (yr)
TOTAL DAILY DRY SLUDGE PRODUCTION	145.3 kg/d
DISPOSAL	LAND FILL

DRAINAGE PUMP STATION

NUMBER OF PUMPS	2
FLOW RATE (EACH PUMP)	46.01 m^3/hr

Revised as of 1/13/09

ORGANIC LOAD DESIGN SUMMARY

PARAMETER	INFLUENT		EFFLUENT LIMIT
	MINIMUM	AVERAGE	
BOD-5 (mg/l)	100	230	10
SUSPENDED SOLIDS (mg/l)	100	230	10
TOTAL N (mg/l)	20	50	-
TKN (mg/l)	20	50	3
D.O. (mg/l)	-	-	5.5
FECAL COLIFORM (n/cml)	-	-	200
T.R.C. (mg/l)	-	-	NON-DETECTABLE
pH	6.0	6.0-9.0	6.0-9.0
	MIN	MAX	
TEMPERATURE	7.8^0C	20^0C	

Addendum to the application
Form 2F
IV. NARRATIVE DESCRIPTION OF POLLUTANT SOURCES
PART B
1.0 DESCRIPTION OF POLLUTANT SOURCES

VPDES regulations require permits for storm water discharges associated with industrial activities. The WFF currently holds VPDES permit VA0024457 for 12 industrial storm water outfalls on the Main Base, labeled 003-010, 012-014, and 302. Four non-industrial storm water outfalls are located on the Wallops Main Base, labeled NOAA1-NOAA4. The Federally Owned Treatment Works (FOTW) process outfall, labeled 001, is also located on the Main Base; eight non-industrial storm water outfalls are located on Wallops Island, labeled WI01-08 (see Figures 2 and 3). Descriptions of the outfalls are provided in IV Narrative Description of Pollutant Sources Part. On the northern portion of the Main Base, both naturally flowing storm water and the extensive storm network drain to Little Mosquito Creek, which drains to Cockle Creek and eventually flows to the Atlantic Ocean. On the eastern and southeastern portions of the Main Base, the natural drainage pattern flows to Jenneys Gut and Simoneaston Bay, then into Cockle Creek, Shelly Bay, and Chincoteague Bay before draining to the Atlantic Ocean. On the western and southwestern portions of the Main Base, the natural drainage pattern is toward Wattsville Branch, then to Little Mosquito Creek, Cockle Creek, and on to the Atlantic Ocean.

The National Oceanic and Atmospheric Administration (NOAA), one of WFF's partners, operates a satellite tracking station (correlating with Standardized Industrial Classification (SIC) code 4899, Communications Services) on the northeast corner of the Main Base. Four outfalls channel storm water from the NOAA facility. The outfalls are labeled on Figure 2 as NOAA 1-NOAA 4. However, based upon NOAA's SIC code; the facility does not produce discharges associated with industrial activity.

With the exception of several cross-culverts, storm drainage at Wallops Mainland is primarily toward Bogues Bay, Hog Creek, and Cat Creek, all which separate Wallops Mainland from Wallops Island. The Mainland portion of the facility, consisting primarily of radar tracking facilities, does not generate storm water discharge associated with industrial activity as specified within regulatory classifications

The northern portion of Wallops Island drains by overland flow to Bogues Bay and Chincoteague Inlet via Sloop Gut and Ballast Narrows. The central portion of the island drains primarily to the west toward Bogues Bay and the southern end drains primarily by sheet flow to Hog Creek and the Atlantic Ocean. Wallops Island has eight storm water outfalls, labeled WI-1 – WI-8. However, Wallops Island does not generate storm water discharge associated with industrial activity as specified within regulatory classifications.

ATTACHMENT 4

TABLE I - DISCHARGE/OUTFALL DESCRIPTION

TABLE I

NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	37 56 41 N 75 28 41 W	Municipal WWTP	See Attached	0.3 MGD
See attached for numerous stormwater outfalls.				

(1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Design flow for municipal

UNIT PROCESS DESIGN SUMMARY – 001

BYPASS BAR SCREEN (EXISTING)

NUMBER OF UNITS	1
SIZE OPENINGS	15mm
VOLUME (EACH UNIT)	3028 m^3/d

GRIT CHAMBER (EXISTING)

NUMBER OF UNITS	2
MAXIMUM FLOW (EACH UNIT)	3785 m^3/d

COMMUNTORS (EXISTING)

NUMBER OF UNITS	2
MAXIMUM FLOW (EACH UNIT)	946 m^3/d

INFLUENT PUMPS

NUMBER OF PUMPS	3
FLOW RATE OF LOW CAPACITY PUMP (EACH PUMP)	48.32 m^3/hr.
FLOW RATE OF HIGH CAPACITY PUMP	57 m^3/hr – 143.8 m^3/hr

COPPER REMOVAL SYSTEM

NUMBER OF PUMPS	2
FLOW RATE	0-52.0ml/min

ALKALINITY FEED SYSTEM

NUMBER OF UNITS	1
VOLUME OF SILO	14.200m^3
SOLUTION CONCENTRATION	3%
FIXED RATES (EACH PUMP) - ADF	0.492m^3/hr
- MDF	0.984m^3/hr
- PHF	1.476m^3/hr

FLOW EQUALIZATION ZONE

NUMBER OF UNITS	2
VOLUME (EACH UNIT)	189.3m^3
PERCENT OF ADF	33%
AIR REQUIREMENT (EACH UNIT)	48 L/S
AIRLIFT REQUIREMENTS (EACH UNIT)	17 L/S

AERATION ZONE

NUMBER OF UNITS	2
VOLUME (EACH UNIT)	543.7 m^3
LIQUID DEPTH	4.573m
MINIMUM ORGANIC LOADING (EACH UNIT)	0.104kg/m^3(d)
MAXIMUM ORGANIC LOADING (EACH UNIT)	0.240kg/m^3(d)
AIR REQUIREMENTS (EACH UNIT)	269 L/S

CLARIFICATION ZONE

NUMBER OF UNITS	2
OVERFLOW RATE (EACH UNIT) – PHF	36.6$m^3/m^2/d$
SURFACE AREA (EACH UNIT)	46.52m^2
LIQUID DEPTH	3.85m
DIMENSIONS	7.696m DIA.
SLUDGE AIRLIFT REQUIREMENTS (EACH UNIT)	15 L/S
SKIMMER AIR REQUIREMENTS (EACH UNIT)	3L/S

SLUDGE HOLDING ZONE

NUMBER OF UNITS	2
MAXIMUM FLOW	3785 m^3/d
AVERAGE DAILY SLUDGE PRODUCTION	72.6kg/d/UNIT
SOLIDS CONCENTRATION	2%
AIR REQUIREMENT (EACH UNIT)	41 L/S
DECANT AIRLIFT REQUIREMENTS (EACH UNIT)	12 L/S

FILTRATION

NUMBER OF UNITS		4
FILTER AREA (EACH UNT)		4.65 m^2
LOADING RATE (EACH UNIT)	ADF	0.0424m^3/m^2 MIN
	MDF	0.0848m^3/m^2 MIN
	PHF	0.127m^3/m^2 MIN

ULTRA VIOLET DISINFECTION

NUMBER OF MODULES	16
NUMBER OF LAMPS (EACH MODULE)	2
UV TRANSMISSION 253.7nm	65%

POST AERATION

NUMBER OF UNITS	2
LENGTHS (EACH UNIT)	2.742m
WIDTH (EACH UNIT)	1.219m
LIQUID DEPTH	1.829m
DETENTION TIME (EACH UNIT) – PHF	5 MIN.
AIR SUPPLY (EACH UNIT) – MDF	11.3 1/s

SLUDGE DRYING BEDS

NUMBER OF UNITS	4
DRYING AREA (EACH UNIT)	116.14 m^2
CAPACITY	114 kg/m^2 (yr)
TOTAL DAILY DRY SLUDGE PRODUCTION	145.3 kg/d
DISPOSAL	LAND FILL

DRAINAGE PUMP STATION

NUMBER OF PUMPS	2
FLOW RATE (EACH PUMP)	46.01 m^3/hr

Revised as of 1/13/09

NASA WALLOPS FLIGHT FACILTIY VA0024457 STORM WATER OUTALL NUMBERING SCHEME FOR 2009 PERMIT REISSUANCE

Numerous storm water outfalls are referenced in the application for reissuance that have not been included in the previous VPDES permits for this facility. During the 2009 reissuance process, these outfalls are being assigned permitted outfall numbers. The outfall numbering scheme is listed below. Specific outfall descriptions are provided on the following pages, taken from the application for reissuance.

VPDES Outfall Number	Application Outfall Reference
021	NOAA-1
022	NOAA-2
023	NOAA-3
024	NOAA-4
031	WI-1
032	WI-2
033	WI-3
034	WI-4
035	WI-5
036	WI-6
037	WI-7
038	WI-8
039	Proposed Northern Wallops Island Liquid Fueling Facility and Deluge System

IV. Narrative Description of Pollutant Sources Part C

WFF Storm Water Outfalls	
Outfall Number	**Description**
003	Drains airfield runways, taxiways, aprons, and a hangar; satellite accumulation areas; aboveground fuel storage tanks; office buildings; roadways, parking areas, and grassy areas. This outfall discharges to Little Mosquito Creek. Potential sources of pollution include possible fuel spills from airfield activities or releases from fuel delivery vehicles or possible hazardous waste spills from either a satellite accumulation area. A slight chance of storm water contamination from hazardous wastes exists; however, all satellite accumulation areas are required to have secondary containment and are located inside covered structures. This outfall drains approximately 204.6 acres (82.8 hectares (ha)) and its weighted runoff coefficient is low at 0.39. During a 24-hour, 2-year storm event, approximately 8.03 million gallons per day (MGD) would discharge from this outfall.
004	Drains airfield runways and taxiways, satellite accumulation areas, an enclosed salt storage facility, an automobile fueling facility and a maintenance garage, aboveground fuel storage tanks, roadways, parking areas, office and storage buildings, and grassy areas. This outfall discharges to Little Mosquito Creek. Potential sources of pollution include possible fuel spills from automobile fueling and maintenance, releases from fuel delivery vehicles, or airfield activities. The slight possibility of hazardous waste spills from satellite accumulation areas also exists; however, all satellite accumulation areas are required to have secondary containment and are located inside covered structures. This outfall drains approximately 54.1 acres (21.9 ha) and its weighted runoff coefficient is low at 0.31. During a 24-hour, 2-year storm event, approximately 1.72 MGD would discharge from this outfall.
005, 006, 007, 008	Drain airfield runways, taxiways, and grassy areas. These outfalls discharge to Little Mosquito Creek. Potential sources of pollution include possible fuel spills from airfield activities. These outfalls drain approximately 18.9 acres (7.6 ha), 2.3 acres (0.93 ha), 12.4 acres (5.0 ha) and 29.0 acres (11.7 ha), respectively. Weighted runoff coefficients range from medium to high and are 0.52, 0.67, 0.40, and 0.46, respectively. During a 24-hour, 2-year storm event, discharges would be approximately 1.00 MGD from outfall 005, 0.16 MGD from outfall 006, 0.51 MGD from outfall 007, and 1.36 MGD from outfall 008.
009	Drains airfield runways, taxiways, and grassy areas. This outfall discharges to Jenneys Gut. Potential sources of pollution include possible fuel spills from airfield activities. This outfall drains approximately 18.2 acres (7.4 ha) and its weighted runoff coefficient is medium at 0.46. During a 24-hour, 2-year storm event, approximately 0.85 MGD would discharge from this outfall.

WFF Storm Water Outfalls	
Outfall Number	**Description**
010	Drains airfield runways, taxiways, and aprons, satellite accumulation areas, a less-than-90-day accumulation area (Building B-29),one restoration sites with petroleum related groundwater impacts), and aboveground fuel storage tanks; office buildings, roadways, parking areas, and grassy areas. This outfall discharges to Jenneys Gut. Potential sources of pollution include possible fuel spills from airfield activities or releases from fuel delivery vehicles or possible hazardous waste spills from either a satellite accumulation area or the less-than-90-day accumulation area. The slight possibility of storm water contamination from hazardous wastes exists; however, all satellite accumulation areas are required to have secondary containment and are located inside covered structures. In addition, the less-than-90-day accumulation area is located in a concrete building that is protected by drains and troughs that would contain a spill within the area. The potential for contaminated runoff from the restoration sites exist, but due to site topographies, is highly unlikely. This outfall drains approximately 127.7 acres (51.7 ha) and its weighted runoff coefficient is low at 0.34. During a 24-hour, 2-year storm event, approximately 4.43 MGD would discharge from this outfall.
012, 013	Drain airfield runways and taxiways and grassy areas. These outfalls discharge to Little Mosquito Creek. Potential sources of pollution include possible fuel spills from airfield activities. These outfalls drain approximately 3.2 acres (1.3 ha) and 2.6 acres (1.1 ha), respectively. Their weighted runoff coefficients are medium at 0.54 and 0.52, respectively. During a 24-hour, 2-year storm event, approximately 0.17 MGD would discharge from outfall 012 and 0.14 MGD from outfall 013.
014	Drains airfield runways, taxiways, and a hangar; satellite accumulation areas and an aboveground fuel storage tank; roadways and parking areas; office and storage buildings; and grassy areas. This outfall discharges to Simoneaston Bay. Potential sources of pollution include possible fuel spills from runway activities or releases from fuel delivery vehicles or possible hazardous waste spills from satellite accumulation areas. However, all satellite accumulation areas are required to have secondary containment and are located inside covered structures This outfall drains approximately 113.1 acres (45.8 ha) with a low weighted runoff coefficient of 0.28. During a 24-hour, 2-year storm event, approximately 3.32 MGD would discharge from this outfall.
302 (mid outfall)	Intermediate Outfall 302 is an oil/water separator located at the aviation fuel tank farm. Water exiting outfall 302 travels a short distance through a ditch, enters the storm water system, and discharges through outfall 003 to Little Mosquito Creek. Potential pollution sources include fuel spills or leaks from the aviation fuel tank farm. However, the oil/water separator will capture any petroleum products released. This outfall drains approximately 0.1 acres (0.04 ha) with a high weighted runoff coefficient of 0.90. During a 24-hour, 2-year storm event, approximately 0.01 MGD would discharge from this outfall.
021 ~~NOAA-1,~~ 022 ~~NOAA-2~~	Drain spacecraft tracking facilities and grassy areas. These outfalls discharge to Little Mosquito Creek. Potential pollution sources include oils and lubricants; however the equipment is regularly inspected and maintained by trained NOAA personnel. These outfalls drain approximately 6.6 acres (2.7 hectares) and 16.2 acres (6.6 hectares), respectively. Weighted runoff coefficients are low at 0.22 and 0.25. During a 24-hour, 2-year storm event, approximately 0.15 MGD would

WFF Storm Water Outfalls	
Outfall Number	**Description**
	discharge from NOAA-1 and 0.41 MGD would discharge from NOAA-2.
~~NOAA-3,~~ ~~NOAA-4~~	Drain spacecraft tracking facilities, aboveground fuel storage tanks, office buildings, parking areas, and grassy areas. NOAA-4 also drains an airfield runway and taxiway. These outfalls discharge to Little Mosquito Creek. Potential sources of pollution include possible fuel spills from airfield activities or releases from fuel delivery vehicles and radar oils and lubricants. To minimize storm water risk, tanks are surrounded by secondary containment and spill kits are readily available; Radar equipment is regularly inspected and maintained by trained NOAA personnel. These outfalls drain approximately 28.3 acres (11.5 hectares) and 51.0 acres (20.6 hectares), respectively. Weighted runoff coefficients are low to moderate at 0.29 and 0.42. During a 24-hour, 2-year storm event, approximately 0.82 MGD would discharge from NOAA-3 and 2.15 MGD would discharge from NOAA-4.
~~WI-1,~~ ~~WI-2~~	Drain small launch facilities, office buildings, fuel storage tanks, roadways, parking areas, and grassy areas. WI-2 also drains a payload assembly building (W-065) that contains a satellite accumulation area near a large door and a building (W-116) with drums that lack secondary containment. Drainage involves retention basins with sluice gates and tidal flaps leading first to tidal marshland and then to Cat Creek. Potential sources of pollution include fuel spills during deliveries or releases from the payload assembly building or drum storage area. To minimize the risk of storm water pollution, all fueling and payload assembly operations are performed by trained personnel. Additionally, spill kits are readily available. These outfalls drain approximately 36.9 acres (14.9 hectares) and 74.3 acres (30.1 ha), respectively. Weighted runoff coefficients are low at 0.22 and 0.20. During a 24-hour, 2-year storm event, approximately 0.93 MGD would discharge from WI-1 and 1.49 MGD would discharge from WI-2. Payload Fueling (Wallops Island) • V-55 – No new discharge to surface or ground water • Potential new facility – storm water, but no new discharge to surface or ground water New Spacecraft Integration Facility (HIF) (South end of island) – storm water, but no new discharge to surface or ground water
~~WI-3,~~ ~~WI-4~~	Drain office buildings, fuel storage tanks, roadways, and parking areas. Drainage involves retention basins with sluice gates and tidal flaps leading first to tidal marshland and then to Cat Creek. Potential sources of pollution include fuel spills from delivery vehicles. To minimize the risk of storm water pollution, all fueling operations are performed by trained personnel. Additionally, spill kits are readily available. These outfalls drain approximately 45.0 acres (18.2 hectares). Their weighted runoff coefficient is low at 0.19. During a 24-hour, 2-year storm event, approximately 0.86 MGD would discharge from these outfalls.

WFF Storm Water Outfalls	
Outfall Number	**Description**
035 ~~WI-5~~	Drains radar and tracking facilities, aboveground fuel storage tanks, office buildings, parking areas, and grassy areas. Drainage involves a culvert with tidal flaps leading first to tidal marshland and then to Cat Creek. Potential sources of pollution include fuel spills from delivery vehicles and radar oils and lubricants. To minimize storm water risks, tanks are surrounded by secondary containment and spill kits are readily available; radar equipment is regularly inspected and maintained by trained personnel. This outfall drains approximately 7.7 acres (3.1 ha). The weighted runoff coefficient is low at 0.19. During a 24-hour, 2-year storm event, approximately 0.15 MGD would discharge from this outfall.
036 ~~WI-6~~	Drains small launch facilities, office buildings, fuel storage tanks, roadways, parking areas, and grassy areas. Drainage involves retention basins with sluice gates and tidal flaps that drain to Hog Creek. Potential sources of pollution include fuel spills from delivery vehicles. To minimize the risk of storm water pollution, all fueling operations are performed by trained personnel. Additionally, spill kits are readily available. This outfall drains approximately 47.8 acres (19.3 hectares).The weighted runoff coefficients is low at 0.23. During a 24-hour, 2-year storm event, approximately 1.1 MGD would discharge from this outfall.
037 ~~WI-7,~~ 038 ~~WI-8~~	Drain orbital launch facilities, small launch facilities, office buildings, fuel storage tanks, roadways, parking areas, and grassy areas. Drainage involves retention basins with sluice gates and tidal flaps that drain to Hog Creek. Potential sources of pollution include orbital launch operations and fuel spills from delivery vehicles. To minimize the risk of storm water pollution, all orbital launch vehicle fueling is performed by highly trained personnel during closely controlled conditions. Also, all launch pad wash waters are tested prior to discharge. All tank fueling operations are performed by trained personnel. Additionally, spill kits are readily available. These outfalls drain approximately 27.9 acres (11.3 hectares) and 22.5 acres (9.1 ha), respectively. Weighted runoff coefficients are low at 0.23 and 0.17. During a 24-hour, 2-year storm event, approximately 0.64 MGD would discharge from WI-7 and 0.38 MGD would discharge from WI-8. Proposed Liquid Fueling Facility – storm water (110% containment for hydrocarbon fuels) Proposed Deluge System – Discharge to containment basin, test for release to surface water structures. Release to surface water structures is anticipated based on similar operations at other NASA launch sites. If necessary water will be tested and treated (pH adjustment) before release, or collected and removed for disposal as necessary. The volume of water required for deluge is still being evaluated. The quantities may be significant requiring release over of period of days.
Northern Wallops Island 039	Proposed Liquid Fueling Facility with a Deluge System – Storm water impacts are unknown at this time. Further research will be conducted and results submitted to VDEQ.

ATTACHMENT 5

TABLE II - EFFLUENT MONITORING/LIMITATIONS

TABLE II - MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 0.3 MGD
Outfall Description: Municipal WWTP
SIC CODE:

(X) Final Limits ( ) Interim Limits Effective Dates - From: Issuance To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MGD)	1		NL	NA	NA	NL	Continuous	TI & RE*
pH (S.U.)	1		NA	NA	6.0	9.0	1/Day	Grab
CBOD5 (mg/l) [a]	3		10	15	NA	NA	3D/Week	24-Hr. comp
CBOD5 (kg/d)	3		11	17	NA	NA	3D/Week	24-Hr. comp
TSS (mg/l) [a]	3		10	15	NA	NA	3D/Week	24-Hr. Comp
TSS (kg/d)	3		11	17	NA	NA	3D/Week	24-Hr. comp
D.O. (mg/l)	2		NA	NA	5.5	NA	1/Day	Grab

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Fecal Coliform (N/CML)	2		200	NA	NA	NA	3D/Week (Between 10 am & 4 pm)	Grab
E. coli (N/CML)	2		126	NA	NA	NA	3D/Week (Between 10 am & 4 pm)	Grab
Total Kjeldahl Nitrogen (TKN) (mg/l)	3		3.0	4.5	NA	NA	3D/Week	24-Hr. comp
Total Kjeldahl Nitrogen (TKN) (kg/d)	3		3.4	5.1	NA	NA	3D/Week	24-Hr. comp
Total Copper (ug/l) [a]	2		19	19	NA	NA	1/Month	24-Hr. comp

*Totalizing, Indicating & Recording Equipment

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] See Part I.B.8. for reporting requirements.

The basis for the limitations codes are:

The basis for the limitations codes are:
1. Technology (e.g., Federal Effluent Guidelines)
2. Water Quality Standards (9 VAC 25-260 et. seq.)
3. Best Professional Judgment

TABLE II - STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 003
Outfall Description: Storm water from the airfield, aviation fuel tank area, buildings, roadways, parking areas and grassy areas
SIC CODE:

PARAMETER & UNITS	STORM CATEGORY 1-29 or BPJ	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS [a]	
		MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MG)	BPJ	NA	NL	1/3 Months	Estimate [b]
pH (S.U.)	BPJ	6.0	9.0	1/3 Months	Grab
TSS (mg/l) [c]	BPJ	NA	NL	1/3 Months	Grab
TPH (mg/l) [c]	BPJ	NA	NL	1/3 Months	Grab

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/3 Months = In accordance with the following schedule: 1st quarter (January 1 - March 31); 2nd quarter (April 1 - June 30); 3rd quarter (July 1 - September 30); 4th quarter (October 1 - December 31).

Upon issuance of the permit, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] See Part I.C. (STORM WATER MANAGEMENT CONDITIONS) for additional storm water sampling and reporting requirements.
[b] Estimate of the total volume of the discharge during the storm event.
[c] See Parts I.E.1. and I.E.3. for quantification levels and reporting requirements, respectively.

The basis for the limitations codes are:

A. Technology (e.g., Federal Effluent Guidelines)
B. Water Quality Standards (9 VAC 25-260 et. seq.)
C. Best Professional Judgment

TABLE II - STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 004-010, 012, 013, 014, 302
Outfall Description: Storm water from: 004-010, 012, 013, 014: main base airfield, runways and taxiways, grassy areas; 302: internal outfall from oil/water separator from fuel tank farm discharging to outfall 003

THESE OUTFALLS SHALL CONTAIN STORM WATER RUNOFF ASSOCIATED WITH A REGULATED INDUSTRIAL ACTIVITY WHERE NO CHEMICAL MONITORING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WASTEWATER FROM THESE OUTFALLS. QUARTERLY VISUAL INSPECTIONS IN ACCORDANCE WITH PART I.C. OF THIS PERMIT SHALL BE CONDUCTED AT THESE OUTFALLS

TABLE II - STORM WATER EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 021-024, 031-036
Outfall Description: Storm water from: 021-024: NOAA Spacecraft Tracking Facilities; 031-036: Wallops Island launch facilities, office areas, fuel storage areas, roadways, parking areas and grassy areas; 035 also drains radar and tracking facilities

THESE OUTFALLS SHALL CONTAIN STORM WATER RUNOFF NOT ASSOCIATED WITH A REGULATED INDUSTRIAL ACTIVITY WHERE NO MONITORING IS REQUIRED. THERE SHALL BE NO DISCHARGE OF PROCESS WASTEWATER FROM THESE OUTFALLS.

TABLE II - EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 037, 038, 039
Outfall Description: 037, 038: Storm water from Wallops Island orbital launch facilities, fuel storage areas, office areas, proposed liquid fueling facility, launch pad wash waters, deluge system; 039: Storm water from Northern Wallops Island liquid fueling facility, deluge system

(X) Final Limits ( ) Interim Limits Effective Dates - From: Issuance To: Expiration

PARAMETER & UNITS	BASIS FOR LIMITS	DESIGN FLOW MULTIPLIER	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
			MONTHLY AVERAGE	WEEKLY AVERAGE	MINIMUM	MAXIMUM	FREQUENCY	SAMPLE TYPE
Flow (MG)	BPJ				NA	NL	1/6 Months	Estimate [b]
pH (S.U.)	BPJ				6.0	9.0	1/6 Months	Grab
TSS (mg/l) [c]	BPJ				NA	NL	1/6 Months	Grab
TPH (mg/l) [c]	BPJ				NA	NL	1/6 Months	Grab

NA = NOT APPLICABLE; NL = NO LIMIT, MONITORING REQUIREMENT ONLY

1/3 Months = In accordance with the following schedule: 1st quarter (January 1 - March 31); 2nd quarter (April 1 - June 30); 3rd quarter (July 1 - September 30); 4th quarter (October 1 - December 31).

No monitoring shall be required for these outfalls until commencement of a discharge. Upon commencement of a discharge, Discharge Monitoring Reports (DMRs) shall be submitted to the regional office at the frequency required by the permit regardless of whether an actual discharge occurs. In the event that there is no discharge for the monitoring period, then "no discharge" shall be reported on the DMR.

[a] See Part I.C. (STORM WATER MANAGEMENT CONDITIONS) for additional storm water sampling and reporting requirements.
[b] Estimate of the total volume of the discharge during the storm event.
[c] See Parts I.B.7. and I.B.8. for quantification levels and reporting requirements, respectively.

The basis for the limitations codes are:

A. Technology (e.g., Federal Effluent Guidelines)
B. Water Quality Standards (9 VAC 25-260 et. seq.)
C. Best Professional Judgment

ATTACHMENT 6

EFFLUENT LIMITATIONS/MONITORING RATIONALE/SUITABLE DATA/ ANTIDEGRADATION/ANTIBACKSLIDING

Outfall 001

This outfall discharges wastewater from the municipal wastewater treatment plant with a design flow 0.3 MGD. The plant receives domestic wastewater from the NASA Wallops Flight Facility Main Base and from Wallops Island. Effluent limitations are based generally on best professional judgment (BPJ) and water quality standards (WQS) using the federal effluent guidelines, VPDES permit manual and the State Water Quality Criteria as references and guidance. The receiving stream is classified as Tier 1 due to a low flow 7Q10 of zero or near zero; the receiving stream of Little Mosquito Creek is also referenced in the Eastern Shore Wasteload Allocations of the Eastern Shore Management Plan. NASA Wallops Island discharge has specified BOD and TSS Wasteload Allocations of 75 lb/d. The facility also has a TMDL for Fecal Coliform based on shellfish growing area of 5.15E+08. This TMDL was approved by EPA in January 2008. Effluent limits have been developed to comply with both the Management Plan and the TMDL.

Specific effluent limitations and associated rationales follow.

Flow - Monthly Average reporting using continuous recording monitoring of flow, based on BPJ and typical for a municipal wastewater discharge. The design flow of this facility is 0.3 MGD. A corrective action plan is required if the flow reaches 95% of the design flow for three consecutive months. The facility rarely comes close to a monthly average flow approaching the design flow.

pH – Limits of 6.0 S.U. Minimum and 9.0 S.U. Maximum at 1/month monitoring frequency by grab sample, based on BPJ to protect water quality at the point of discharge.

BOD_5, TSS - (Swamp and Marsh Limits), 10 mg/l Monthly Average; 15 mg/l Weekly Average with 3 day per week monitoring by 24-hour composite sampling. This is based on BPJ, and are typical limits for these parameters in permits that the DEQ issues for the Eastern Shore. These limits are found to be representative of "self-sustaining" effluent, i.e., the effluent will not normally violate the stream standards even if the stream consists of 100% effluent. Note: Eastern Shore Wasteload Allocation for this facility is 75 lbs/day BOD5 and TSS. Current limit for BOD5 and TSS provides for a max loading of 38 lb/day, well in compliance with the specified wasteload allocation in the Management Plan.

D.O. – Effluent limitation of 5.5 mg/l Minimum, at 1/Day frequency by grab sample, based on BPJ. This limit is more stringent than that required by the Swamp and Marsh Limits guidance (3 mg/l); this is to protect the small receiving stream, comply with antidegradation requirements and protect downstream shellfish resources. A review of the data during the last five years indicates that the permittee consistently produces effluent with a D.O. concentration above 7 mg/l and can consistently meet the minimum limit of 5.5 mg/l.

Fecal Coliform – Effluent limitation of 200 n/cml, monitored 3D/week by grab sample, based on Water Quality Standards 9 VAC 25-260-160 for discharges into Shellfish waters. The receiving stream is considered shellfish growing waters downstream of the discharge. The Health Department has previously stated that effluent limits of 200 n/cml will comply with the instream standard. Further, this receiving stream has a TMDL for fecal coliform for the protection of shellfish and this permitted facility has been assigned a wasteload allocation for fecal coliform of 5.15E+08. The effluent limitation of 200 n/cml will comply with this wasteload allocation.

E. Coli – Effluent limitation of 126 N/CML Monthly Average, monitored 3D/week by grab sample: This limit is based on water quality standards 9 VAC 25-260-170 and included in the permit in accordance with DEQ Guidance Memo No. 03-2007 which implements Water Quality Standards for bacteriological parameters. Bacteriological effluent limitations are included in the permit to ensure proper disinfection from the treatment system which uses ultraviolet methods for disinfection instead of chlorination.

TKN – Effluent limits of 3.0 mg/l Monthly Average, 4.5 mg/l Weekly Average, monitored 3D/week by 24-hour composite samples based on BPJ. These limits are typically included in permits for municipal dischargers on the Eastern Shore and are representative of "self-sustaining" effluent, i.e., the effluent will not normally violate the stream standards even if the stream consists of 100% effluent. Additionally, this limit is stringent enough to protect any receiving waters from ammonia toxicity, hence an NH_3-N limit unnecessary.

Total Recoverable Copper – Effluent limitation of 19 µg/l Monthly Average/Weekly Average, monitored 1/month by 24-hour composite sample. This limit is based on Water Quality Standards and is the result of mathematical modeling of the sampling data that was provided by the permittee during a previous permit cycle. This limit was accompanied by a 4-year schedule of compliance during the previous permit term. The schedule of compliance has passed and the limit is now effective.

Facility = US Nasa Wallops Flight Facility
Chemical = Copper
Chronic averaging period = 4
WLAa = 20
WLAc = 13
Q.L. = .1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 18
Expected Value = 47.3988
Variance = 636.830
C.V. = 0.532407
97th percentile daily values = 107.070
97th percentile 4 day average = 74.9295
97th percentile 30 day average= 56.0652
< Q.L. = 0
Model used = lognormal

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 18.5763277170115
Average Weekly limit = 18.5763277170115
Average Monthly LImit = 18.5763277170115

The data are:

20
33
27
51
50
50
36
61
21
44
20
63
40
55
37
93
121
29

Outfall 003

This outfall discharges storm water from the airfield, aviation fuel tank farm, buildings, roadways and parking areas. Parts of the drainage area are associated with industrial activity. The outfall also drains internal outfall 302, which is the aviation fuel tank farm. General sampling requirements are based on BPJ to protect water quality and to ensure proper implementation of best management practices (BMP's). All monitoring is once per 3 months by grab sample. Only pH will be limited. Outfall 302 discharge is treated by an oil/water separator before discharging to Little Mosquito Creek through Outfall 003. Any discharge of petroleum products from Outfall 302 (Aviation fuel tank farm) will be monitored at outfall 003. Effluent treatment of Outfall 003 is an oil/water separator. No internal outfall monitoring at outfall 302 is required. Specific monitoring requirements for outfall 003 follow.

Flow - NL MG Maximum. Estimated to determine contribution of stormwater to receiving streams.

pH - 6.0 S.U. Minimum/9.0 S.U. Maximum: Protective of the receiving streams during storm events.

TSS - NL Maximum: Sampled to determine solids that are discharged to the receiving streams.

TPH - NL Maximum: Sampled to determine if petroleum is being flushed to the receiving stream.

Outfalls 004, 005, 006, 007, 008, 009, 010, 012, 013, 014, 302

These outfalls discharge stormwater runoff associated with regulated industrial activity from the main base airfield runways and taxiways. Since all storage of materials is under cover, no chemical monitoring is required. There shall be no discharge of process wastewater from these outfalls. Outfalls 004 and 010 contain stormwater runoff associated with a regulated industrial activity very similar to Outfall 003. However, it was determined that the potential for contamination by the activities draining to these outfalls is very low and Outfall 003 is descriptive of these outfalls. Therefore, no chemical monitoring is required for these outfalls. For all the listed outfalls, quarterly visual monitoring in accordance with Part I.C. for this permit is appropriate and required to periodically determine if there is a visual impact to the receiving stream from the storm water. These simple visual inspections serve to judge the effectiveness of base-wide BMP's and storage practices and could determine if there is a potential impact to the receiving stream and if additional monitoring is necessary in the future.

Outfalls 021, 022, 023, 024
And
Outfalls 031, 032, 033, 034, 035, 036
And
Outfalls 037, 038, 039

Numerous storm water outfalls are referenced in the application for reissuance that have not been included in the previous VPDES permits for this facility. During the 2009 reissuance process, these outfalls are being assigned permitted outfall numbers. The outfall numbering scheme is listed below. Specific outfall descriptions are provided on the following pages, taken from the application for reissuance.

VPDES Outfall Number	Application Outfall Reference
021	NOAA-1
022	NOAA-2
023	NOAA-3
024	NOAA-4
031	WI-1
032	WI-2
033	WI-3
034	WI-4
035	WI-5
036	WI-6
037	WI-7
038	WI-8
039	Proposed Northern Wallops Island Liquid Fueling Facility and Deluge System

Outfalls 021, 022, 023, 024

These outfalls discharge stormwater runoff not associated with regulated industrial activity from the NOAA Spacecraft Tracking facilities. NOAA operates a satellite tracking station on the northeast corner of the base; no industrial activities occur in the drainage areas to the these outfalls. No chemical or visual monitoring is required for these outfalls.

Outfalls 031, 032, 033, 034, 035, 036

These outfalls discharge stormwater runoff not associated with regulated industrial activity from the Wallops Island launch facilities and associated office areas, fuel storage areas, roadways, parking areas, and grassy areas; outfall 035 also drains radar and tracking facility areas. No chemical or visual monitoring is required for these outfalls.

Outfalls 037, 038, 039

These outfalls drain storm water from Wallops Island orbital launch facilities, fuel storage areas, office areas and a proposed liquid fueling facility. They also contain non storm water discharges from launch pad wash waters and the deluge system. Outfall 039 will contain storm water from the proposed Northern Wallops Island liquid fueling facility and deluge system. Because the outfalls contain storm water and non-storm water discharges, chemical monitoring is appropriate for these outfalls. All monitoring is based on BPJ at a 1/6 month frequency by grab sample, and is similar to outfall 003. Monitoring at these outfalls shall commence upon commencement of a discharge. Specific monitoring requirements follow.

Flow - NL MG Maximum. Estimated to determine contribution of stormwater to receiving streams.

pH - 6.0 S.U. Minimum/9.0 S.U. Maximum: Protective of the receiving streams during storm events.

TSS - NL Maximum: Sampled to determine solids that are discharged to the receiving streams.

TPH - NL Maximum: Sampled to determine if petroleum is being flushed to the receiving stream.

The SWPPP required by Part I.C. of this permit is designed to reduce pollutants in storm water runoff. The goal of the SWPPP is to reduce pollutants, to the maximum extent practicable. An annual report is to be submitted to the Regional office and shall include the data collected the previous year with an indication if the SWPPP or any BMPs were modified based on the monitoring results.

Permit No	Facility Name	Received Date	otfl	Parameter Descrip	QTYAVG	QTYMAX	CONCMIN	CONCAVG	CONCMAX
VA0024457	US NASA - V	11-Jan-2005	001	FLOW	0.045	0.128			
VA0024457	US NASA - V	10-Feb-2005	001	FLOW	0.046	0.108			
VA0024457	US NASA - V	09-Mar-2005	001	FLOW	0.044	0.084			
VA0024457	US NASA - V	11-Apr-2005	001	FLOW	0.050	0.103			
VA0024457	US NASA - V	10-May-2005	001	FLOW	0.056	0.115			
VA0024457	US NASA - V	10-Jun-2005	001	FLOW	0.054	0.114			
VA0024457	US NASA - V	08-Jul-2005	001	FLOW	0.068	0.126			
VA0024457	US NASA - V	05-Aug-2005	001	FLOW	.058	.087			
VA0024457	US NASA - V	12-Sep-2005	001	FLOW	0.063	0.108			
VA0024457	US NASA - V	11-Oct-2005	001	FLOW	0.051	0.063			
VA0024457	US NASA - V	10-Nov-2005	001	FLOW	0.057	0.160			
VA0024457	US NASA - V	09-Dec-2005	001	FLOW	0.046	0.107			
VA0024457	US NASA - V	11-Jan-2006	001	FLOW	0.054	0.148			
VA0024457	US NASA - V	10-Feb-2006	001	FLOW	0.042	0.065			
VA0024457	US NASA - V	09-Mar-2006	001	FLOW	0.038	0.058			
VA0024457	US NASA - V	10-Apr-2006	001	FLOW	0.038	0.051			
VA0024457	US NASA - V	10-May-2006	001	FLOW	0.044	0.061			
VA0024457	US NASA - V	12-Jun-2006	001	FLOW	0.050	0.078			
VA0024457	US NASA - V	11-Jul-2006	001	FLOW	0.069	0.159			
VA0024457	US NASA - V	07-Aug-2006	001	FLOW	0.065	0.117			
VA0024457	US NASA - V	07-Sep-2006	001	FLOW	0.054	0.115			
VA0024457	US NASA - V	05-Oct-2006	001	FLOW	0.064	0.202			
VA0024457	US NASA - V	08-Nov-2006	001	FLOW	0.062	0.162			
VA0024457	US NASA - V	07-Dec-2006	001	FLOW	0.061	0.208			
VA0024457	US NASA - V	09-Jan-2007	001	FLOW	0.046	0.106			
VA0024457	US NASA - V	07-Feb-2007	001	FLOW	0.040	0.072			
VA0024457	US NASA - V	06-Mar-2007	001	FLOW	0.041	0.074			
VA0024457	US NASA - V	09-Apr-2007	001	FLOW	0.042	0.100			
VA0024457	US NASA - V	09-May-2007	001	FLOW	0.045	0.14			
VA0024457	US NASA - V	07-Jun-2007	001	FLOW	0.042	0.060			
VA0024457	US NASA - V	09-Jul-2007	001	FLOW	0.050	0.082			
VA0024457	US NASA - V	09-Aug-2007	001	FLOW	0.054	0.168			
VA0024457	US NASA - V	06-Sep-2007	001	FLOW	0.054	0.15			
VA0024457	US NASA - V	09-Oct-2007	001	FLOW	0.048	0.080			
VA0024457	US NASA - V	07-Nov-2007	001	FLOW	0.049	0.104			

VA0024457	US NASA - V	06-Dec-2007	001	FLOW	0.038	0.061			
VA0024457	US NASA - V	08-Jan-2008	001	FLOW	0.037	0.094			
VA0024457	US NASA - V	07-Feb-2008	001	FLOW	0.042	0.086			
VA0024457	US NASA - V	06-Mar-2008	001	FLOW	0.049	0.106			
VA0024457	US NASA - V	09-Apr-2008	001	FLOW	0.043	0.086			
VA0024457	US NASA - V	08-May-2008	001	FLOW	0.045	0.068			
VA0024457	US NASA - V	09-Jun-2008	001	FLOW	0.057	0.139			
VA0024457	US NASA - V	10-Jul-2008	001	FLOW	0.071	0.150			
VA0024457	US NASA - V	07-Aug-2008	001	FLOW	0.060	0.111			
VA0024457	US NASA - V	09-Sep-2008	001	FLOW	0.055	0.094			
VA0024457	US NASA - V	09-Oct-2008	001	FLOW	0.074	0.169			
VA0024457	US NASA - V	06-Nov-2008	001	FLOW	0.051	0.076			
VA0024457	US NASA - V	09-Dec-2008	001	FLOW	0.053	0.11			
VA0024457	US NASA - V	08-Jan-2009	001	FLOW	0.055	0.303			
VA0024457	US NASA - V	06-Feb-2009	001	FLOW	0.040	0.070			
VA0024457	US NASA - V	09-Mar-2009	001	FLOW	0.039	0.055			
VA0024457	US NASA - V	08-Apr-2009	001	FLOW	0.047	0.085			
VA0024457	US NASA - V	08-May-2009	001	FLOW	0.055	0.112			
VA0024457	US NASA - Wallops Flight Facil		001	FLOW					
VA0024457	US NASA - V	11-Jan-2005	001	PH			7.0		7.4
VA0024457	US NASA - V	10-Feb-2005	001	PH			6.9		7.4
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VA0024457	US NASA - V	06-Dec-2007	001	TKN (N-KJEL	0.019	0.026		0.13	0.18
VA0024457	US NASA - V	08-Jan-2008	001	TKN (N-KJEL	0.017	0.042		0.13	0.34
VA0024457	US NASA - V	07-Feb-2008	001	TKN (N-KJEL	0.035	0.057		0.23	0.38
VA0024457	US NASA - V	06-Mar-2008	001	TKN (N-KJEL	0.12	0.14		0.61	0.67
VA0024457	US NASA - V	09-Apr-2008	001	TKN (N-KJEL	0.023	0.033		0.13	0.19
VA0024457	US NASA - V	08-May-2008	001	TKN (N-KJEL	0.0069	0.032		0.039	0.18
VA0024457	US NASA - V	09-Jun-2008	001	TKN (N-KJEL	0.16	0.21		0.74	0.82
VA0024457	US NASA - V	10-Jul-2008	001	TKN (N-KJEL	0.19	0.31		0.60	0.70

VA0024457	US NASA - V	07-Aug-2008	001	TKN (N-KJEL)	0.050	0.17		0.21	0.69
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VA0024457	US NASA - V	09-Oct-2008	001	TKN (N-KJEL)	0.12	0.16		0.40	0.35
VA0024457	US NASA - V	06-Nov-2008	001	TKN (N-KJEL)	0.039	0.031		0.18	0.17
VA0024457	US NASA - V	09-Dec-2008	001	TKN (N-KJEL)	0.035	0.70		0.18	0.37
VA0024457	US NASA - V	08-Jan-2009	001	TKN (N-KJEL)	0.058	0.10		0.27	0.38
VA0024457	US NASA - V	06-Feb-2009	001	TKN (N-KJEL)	0.029	0.067		0.16	0.35
VA0024457	US NASA - V	09-Mar-2009	001	TKN (N-KJEL)	0.037	0.067		0.24	0.39
VA0024457	US NASA - V	08-Apr-2009	001	TKN (N-KJEL)	0.095	0.13		0.52	0.75
VA0024457	US NASA - V	08-May-2009	001	TKN (N-KJEL)	0.55	1.1		2.1	3.7
VA0024457	US NASA - Wallops Flight Facil		001	TKN (N-KJEL)					
VA0024457	US NASA - V	10-May-2006	001	E.COLI					
VA0024457	US NASA - V	12-Jun-2006	001	E.COLI					
VA0024457	US NASA - V	11-Jul-2006	001	E.COLI					
VA0024457	US NASA - V	07-Aug-2006	001	E.COLI				NR	
VA0024457	US NASA - V	07-Sep-2006	001	E.COLI				NR	
VA0024457	US NASA - V	09-Oct-2008	001	E.COLI				<10	
VA0024457	US NASA - V	06-Nov-2008	001	E.COLI				41	
VA0024457	US NASA - V	09-Dec-2008	001	E.COLI				<17	
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VA0024457	US NASA - V	06-Feb-2009	001	E.COLI				<6	
VA0024457	US NASA - V	09-Mar-2009	001	E.COLI				<9	
VA0024457	US NASA - V	08-Apr-2009	001	E.COLI				<3	
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VA0024457	US NASA - Wallops Flight Facil		001	E.COLI					
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VA0024457	US NASA - V	09-Oct-2008	001	CBOD5	<QL	<QL		<QL	<QL
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VA0024457	US NASA - V	09-Dec-2008	001	COPPER, TOTAL RECOVERABLE			10	10	
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VA0024457	US NASA - V	08-May-2009	001	COPPER, TOTAL RECOVERABLE			19.0	26.0	
VA0024457	US NASA - Wallops Flight Facil		001	COPPER, TOTAL RECOVERABLE					
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VA0024457	US NASA - V	11-Jan-2006	003	PH			7.5		7.5
VA0024457	US NASA - V	10-Apr-2006	003	PH			6.8		6.8
VA0024457	US NASA - V	11-Jul-2006	003	PH			6.8		6.8
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VA0024457	US NASA - V	09-Apr-2007	003	TSS					7.3
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VA0024457	US NASA - V	08-Jan-2009	003	TSS					1.7
VA0024457	US NASA - V	08-Apr-2009	003	TSS					2.3
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VA0024457	US NASA - V	11-Apr-2005	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<0.5
VA0024457	US NASA - V	08-Jul-2005	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<5.0
VA0024457	US NASA - V	11-Oct-2005	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<5.0
VA0024457	US NASA - V	11-Jan-2006	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<5.0
VA0024457	US NASA - V	10-Apr-2006	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<5.0
VA0024457	US NASA - V	11-Jul-2006	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<0.5
VA0024457	US NASA - V	05-Oct-2006	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<5.0
VA0024457	US NASA - V	09-Jan-2007	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<5.0
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VA0024457	US NASA - V	09-Jul-2007	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<QL
VA0024457	US NASA - V	09-Oct-2007	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<1.0
VA0024457	US NASA - V	08-Jan-2008	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<1.0
VA0024457	US NASA - V	09-Apr-2008	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<1.0
VA0024457	US NASA - V	10-Jul-2008	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<1.0
VA0024457	US NASA - V	09-Oct-2008	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<1.0
VA0024457	US NASA - V	08-Jan-2009	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<0.7
VA0024457	US NASA - V	08-Apr-2009	003	PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE					<1.0

ATTACHMENT 7

SPECIAL CONDITIONS RATIONALE

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE

Name of Condition:

B. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. Sludge Reopener

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-220 C., and 40 CFR 122.44 (c)(4), which note that all permits for domestic sewage treatment plants (including sludge-only facilities) include any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act.

2. Total Maximum Daily Load (TMDL) Reopener

Rationale: For specified waters, Section 303(d) of the Clean Water Act requires the development of total maximum daily loads necessary to achieve the applicable water quality standards. The TMDL must take into account seasonal variations and a margin of safety. In addition, Section 62.1-44.19:7 of the State Water Control Law requires the development and implementation of plans to address impaired waters, including TMDLs. This condition allows for the permit to be either modified or, alternatively, revoked and reissued to incorporate the requirements of a TMDL once it is developed. In addition, the reopener recognizes that, in according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under Section 303 of the Act.

3. Licensed Operator Requirement

Rationale: The Permit Regulation, 9 VAC 25-31-200 D and Code of Virginia 54.1-2300 et. seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.) requires licensure of operators.

4. Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 12 VAC 5-581-20 and 120 for all municipal facilities.

5. CTC, CTO and O & M Manual Requirements

Rationale: Required by the State Water Control Law, Section 62.1-44.19; the Sewage Collection and Treatment Regulations (12 VAC 5-581 et seq); Section 401 of the Clean Water Act; 40 CFR 122.41(e); and the VPDES Permit Regulation (9 VAC-25-31-190E).

6. 95% Design Capacity Notification

Rationale: Required by the VPDES Permit Regulation, 9 VAC 25-31-200 B.2. for all POTW and PVOTW permits. Best professional judgement is used to apply this condition to other (private) municipal treatment facilities.

7. Quantification Levels Under Part I.A.

Rationale: States are authorized to establish monitoring methods and procedures to compile and analyze data on water quality, as per 40 CFR part 130, Water Quality Planning and Management, subpart 130.4. Section b. of the special condition defines QL and is included per BPJ to clarify the difference between QL and MDL.

8. Compliance Reporting Under Part I.A.

Rationale: Defines reporting requirements for toxic parameters and some conventional parameters with quantification levels to ensure consistent, accurate reporting on submitted reports.

9. Indirect Dischargers

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1. for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

10. Sludge Management Plan

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-420, and 40 CFR 503.1 specify the purpose and applicability for sludge management plans. The VPDES Permit Regulation, 9 VAC 25-31-100 J.4., also sets forth certain detailed information which must be included in a sludge management plan. The VPDES sewage sludge permit application form and its attachments constitute the sludge management plan and will be considered for approval with the VPDES permit. In addition, the Biosolids Use Regulation, 12 VAC 5-585-330 and 340, specifies the general purpose and control requirements for an O&M manual in order to facilitate proper O&M of the facilities to meet the requirements of the regulation.

11. Cooling Water and Boiler Additives

Rationale: Chemical additives may be toxic or otherwise violate the receiving stream water quality standards. Upon notification, the regional office can determine if this new additive will warrant a modification to the permit.

C. STORM WATER MANAGEMENT CONDITIONS

1. Sampling Methodology for Specific Outfalls 003, 037, 038, 039

Rationale: Defines methodology for collecting representative effluent samples in conformance with applicable regulations.

2. Storm Water Management Evaluation

Rationale: The Clean Water Act 402(p) (2) (B) requires permits for storm water discharges associated with industrial activity. VPDES permits for storm water discharges must establish BAT/BCT requirements in accordance with 402(p)(3) of the Act. The Storm Water Pollution Prevention Plan is the vehicle proposed by EPA in the final NPDES General Permits for Storm Water Discharges Associated with Industrial Activity (Federal Register Sept 9, 1992) to meet the requirements of the Act. Additionally, the VPDES Permit Regulation, 9 VAC 25-31-220 K., and 40 CFR 122.44 (k) allow BMPs for the control of toxic pollutants listed in Section 307 (a)(1), and hazardous substances listed in Section 311 of the Clean Water Act

where numeric limits are infeasible or BMPs are needed to accomplish the purpose/intent of the law.

Finally, the EPA produced a document dated August 1, 1996, entitled "Interim Permitting Approach for Water Quality- Effluent Limitations in Storm Water Permits". This document indicated that an interim approach to limiting storm water could be through the use of best management practices rather than numerical limits. EPA pointed out that Section 502 of the Clean Water Act (CWA) defined "effluent limitation" to mean "any restriction on quantities, rates, and concentrations of constituents discharged from point sources. The CWA does not say that effluent limitations need be numeric." The use of BMPs falls in line with the Clean Water Act which notes the need to control these discharges to the maximum extent necessary to mitigate impacts on water quality.

3. General Storm Water Conditions

a. Sample Type

Rationale: This stipulates the proper sampling methodology for qualifying rain events from regulated storm water outfalls. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

b. Recording of Results

Rationale: This sets forth the information which must be recorded and reported for each storm event sampling (ie. date and duration event, rainfall measurement, and duration between qualifying events). It also requires the maintenance of daily rainfall logs which are to be reported. This condition is carried over from the previous storm water pollution prevention plan requirements contained in the EPA storm water baseline industrial general permit.

c. Sampling Waiver

Rationale: This condition allows the permittee to collect substitute samples of qualifying storm events in the event of adverse climatic conditions. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

d. Representative Discharge

Rationale: This condition allows the permittee to submit the results of sampling from one outfall as representative of other similar outfalls, provided the permittee can demonstrate that the outfalls are substantially identical. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

e. Quarterly Visual Examination of Storm Water Quality

Rationale: This condition requires that visual examinations of storm water outfalls take place at a specified frequency and sets forth what information needs to be checked and documented. These examinations assist with the evaluation of the pollution prevention plan by providing a simple, low cost

means of assessing the quality of storm water discharge with immediate feedback. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

f. Releases of Hazardous Substances or Oil in Excess of Reportable Quantities

Rationale: This condition requires that the discharge of hazardous substances or oil from a facility be eliminated or minimized in accordance with the facility's storm water pollution prevention plan. If there is a discharge of a material in excess of a reportable quantity, it establishes the reporting requirements in accordance with state laws and federal regulations. In addition, the pollution prevention plan for the facility must be reviewed and revised as necessary to prevent a reoccurrence of the spill. Use of this condition is a BPJ determination based on the EPA storm water multi-sector general permit for industrial activities and is consistent with that permit.

g. Allowable Non-Storm Water Discharges

Rationale: The listed allowable non-storm water discharges are the same as those allowed by the EPA in their multi-sector general permit, and are the same non-storm water discharges allowed under the Virginia General VPDES Permit for Discharges of Storm Water Associated with Industrial Activity, 9 VAC 25-151-10 et seq. Allowing the same non-storm water discharges in VPDES individual permits provides consistency with other storm water permits for industrial facilities. The non-storm water discharges must meet the conditions in the permit.

4. Storm Water Pollution Prevention Plan

Rationale: The Clean Water Act 402(p) (2) (B) requires permits for storm water discharges associated with industrial activity. VPDES permits for storm water discharges must establish BAT/BCT requirements in accordance with 402(p)(3) of the Act. The Storm Water Pollution Prevention Plan is the vehicle proposed by EPA in the final NPDES General Permits for Storm Water Discharges Associated with Industrial Activity (Federal Register Sept 9, 1992) to meet the requirements of the Act. Additionally, the VPDES Permit Regulation, 9 VAC 25-31-220 K., and 40 CFR 122.44 (k) allow BMPs for the control of toxic pollutants listed in Section 307 (a)(1), and hazardous substances listed in Section 311 of the Clean Water Act where numeric limits are infeasible or BMPs are needed to accomplish the purpose/intent of the law.

ATTACHMENT 8

MATERIAL STORED

2.0 INVENTORY OF EXPOSED MATERIALS

An inventory of exposed materials was developed from data collected through field surveys, inspections, and personnel interviews. NASA's website, MSDS Pro© (http://msds.gsfc.nasa.gov:8080/1/locset1), contains detailed chemical inventories, along with links to the corresponding MSDS, for each building at the facility.

The Environmental Office has actively sought to reduce the pollution potential from outdoor drum storage and loading activities by moving the majority of these activities under shelter.

WFF currently maintains 68 satellite and 3 less-than-90-day hazardous waste accumulation areas, most of which are covered and within secondary containment. One accumulation area, located at the D-37 aviation fuel farm, is exposed directly to storm water. However, to minimize risk, all materials are stored in a sealed drum within an area that drains through the outfall 302 oil/water separator. Several other accumulation areas present a storm water risk based upon their location within buildings. The accumulation areas at Buildings D-50 and B-31 on the Main Base and W-65 on the Island are located near large doors and are not protected with secondary containment. The accumulation area at building F-27 is under a roof, but does not have secondary containment. Furthermore, the accumulation areas in D-1 and N-159 hangars are located in areas of the buildings in which floor drains are connected to the storm sewer. Although these areas are not exposed to storm water, the occurrence of a spill in conjunction with a storm event presents a risk. To ensure the integrity of all accumulation areas and to minimize storm water risk, they are inspected at least annually by the WFF Environmental Office. Less than one 55-gallon (208.175 liter) drum of any hazardous waste or 1 quart (0.95 liters) of an acutely hazardous waste, P-listed (*40 CFR 261.33*), may be stored at any of the above mentioned satellite accumulation areas.

3.0 APPLICATION OF PESTICIDES, HERBICIDES, SOIL CONDITIONERS, AND FERTILIZERS

No pesticides or soil conditioners are used at WFF. Monsanto's Round-Up herbicide is spray applied biannually around facility-wide signs and shrubbery to reduce weeds. Flowerbeds adjacent to various buildings are fertilized annually with spray application of Scotts Miracle-Gro. DuPont's Hyvar herbicide is sprayed once or twice a year on cracks in the runway to prevent vegetative growth.

ATTACHMENT 9

RECEIVING WATERS INFO./ TIER DETERMINATION/STORET DATA/ STREAM MODELING / IMPAIRED SEGMENTS / TMDL's

M E M O R A N D U M

Department of Environmental Quality
Tidewater Regional Office

5636 Southern Boulevard — Virginia Beach, VA 23462

SUBJECT: VPDES Application Requests
~~FROM~~ TO: Stephen Cioccia, TRO
~~TO~~ FROM: Saner, TRO
DATE: 2/27/09
COPIES: TRO File - facility #650, PPP

An application has been received for the following facility:

VPDES #: VA00 24457 Facility Name: NASA Wallops Flight Facility

Topo Map Name: Hallwood, Chincoteague West

Receiving Stream: Unnamed Tributary to Little Mosquito Creek
[Must be provided for each outfall included in this request or request will be returned]

Attached is a Topographic Map showing facility property boundaries and outfall location(s) for those included in this request. **[MUST be provided or request will be returned]**

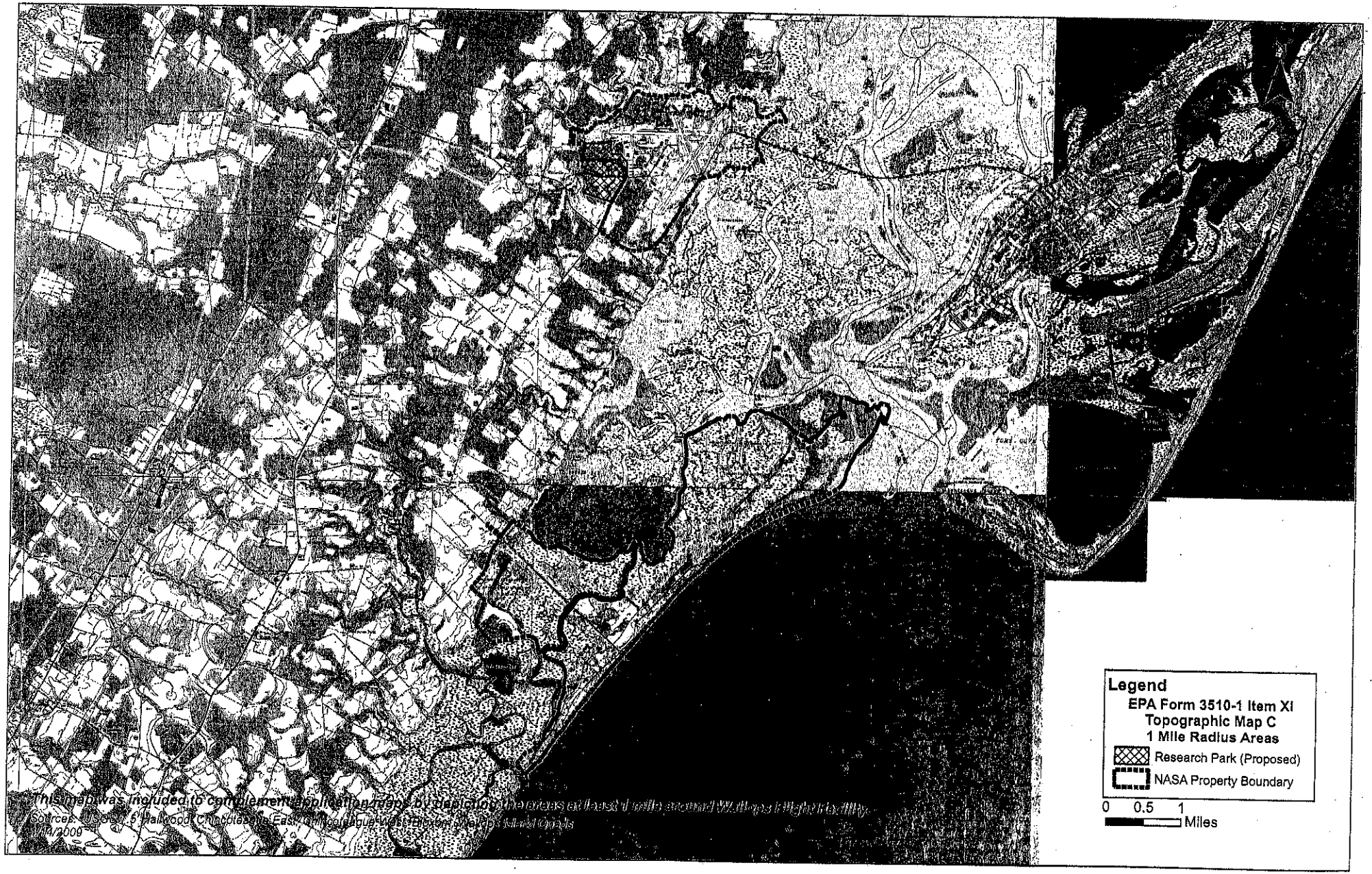
Attached is a stream data Request Form **(if data is requested).**

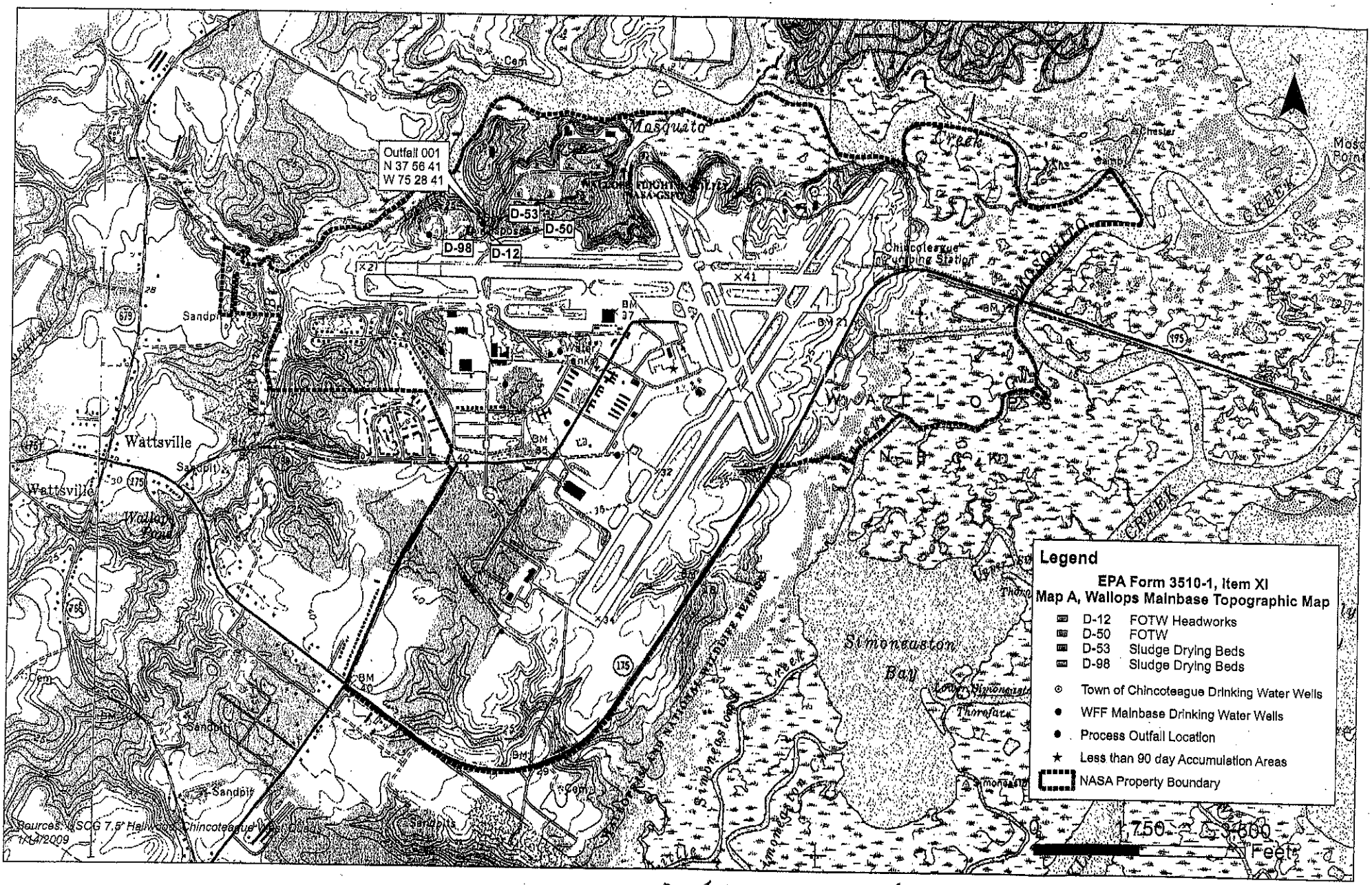
We request the following information from you:

1. __X__ Tier Determination. Tier: 1 (discharge to receiving stream with 7Q10=0) Outfall 001
Please include a basis for the tier determination. See attachment 1
2. Not requested Stream Data Requested for outfall(s) N/A
["STREAM DATA RETRIEVAL REQUEST FORM" MUST be completed & included]
3. __X__ Is this facility mentioned in a Management Plan?
_____ No ___✓___ Yes _____ No, but will be included when the Plan is updated.
4. __X__ Are limits contained in a Management Plan?
_____ No ___✓___ Yes **(If Yes, Please include the basis for the limits.)** See attachment 2
5. __X__ Indicate outfall(s) which discharge directly to an impaired (Category 5) stream segment? * None
6. __X__ Are outfall(s) WLAs contained in an approved TMDL?
_____ No ___✓___ Yes **(If Yes, Please include the WLAs)** See attachment 3

Return Date Requested: 3/10/09

Date Returned: 3/6/09


Legend
EPA Form 3510-1 Item XI
Topographic Map C
1 Mile Radius Areas
Research Park (Proposed)
NASA Property Boundary
0 0.5 1
Miles
This map was included to complement application maps by depicting the areas at least 1 mile around Wallops Flight Facility.
Sources: USGS 7.5' Walkoop Chincoteague East, Chincoteague West, Bloxom, Melfa Quads
7/17/2009



D01E_LTM01A06

VPDES Permit Application Addendum

1. Entity to whom the permit is to be issued: US – NASA Wallops Flight Facility

   Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. Is this facility located within city or town boundaries? NO

3. Provide the tax map parcel number for the land where the discharge is located. 28((A)) 75 Mainbase

4. For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities? 5 - 10 acres

5. What is the design average effluent flow of this facility? 0.3 MGD

   For industrial facilities, provide the max. 30-day average production level, include units: N/A

   In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? NO

   If "YES", please identify the other flow tiers (in MGD) or production levels: _____

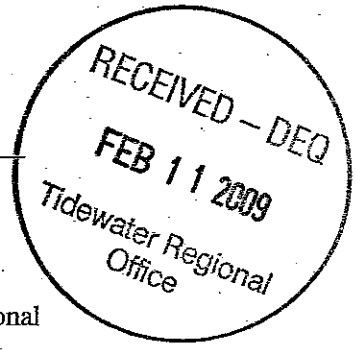
   Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is you facility's design flow considerably greater than your current flow?

6. Nature of operations generating wastewater: Domestic Waste Water

   90% of flow from domestic connections/sources

   Number of private residences to be served by the treatment works: 157

   10% of flow from non-domestic connections/sources



7. Mode of Discharge: X Continuous Intermittent Seasonal
   Describe frequency and duration of intermittent or seasonal discharges:
   _____

8. Identify the characteristics of the receiving stream at the point just above the facility's discharge point:

   ____ Permanent stream, never dry
   X Intermittent stream, usually flowing, sometimes dry
   ___ Ephemeral stream, wet-weather flow, often dry
   ___ Effluent-dependent stream, usually or always dry without effluent flow
   ___ Lake or pond at or below the discharge point
   ___ Other _____

9. Approval Date(s):
   O&M Manual 07/07 Sludge/Solids Management Plan 08/04
   O&M Manual Addendum Metals Removal System 07/08

   Have there been any changes in your operations or procedures since the above approval dates? NO

Until further guidance is provided by OWRM Permits, assessment of waters for NH_3 should be based upon OWRM Guidance No. 93-015 from Larry G. Lawson, dated June 22, 1993.

The above guidance specifies that the ambient NH_3 data should be compared to the NH_3 standard (calculated using 90th percentile of ambient data for pH and temperature of that segment) and by using the "STANDARDS.EXE Program" developed by OWRM Permits Modelling. (These environmental conditions are considered critical design conditions to protect water quality and to comply with WQS.) If the 97th percentile of the in-stream data is greater than either of the calculated NH_3 standards (chronic or acute), then OWRM considers the standard is being violated and the segment is WQL.

2.4.7 Wasteload Allocations Where The 7Q10 Is Zero *Or Minimal*

A discharge to a water course with a 7Q10 of zero or near zero would be required to have effluent limits that would comply with water quality standards, at a minimum. The discharge would have to be "self sustaining" so to comply with water quality standards. Therefore, the discharge would be WQL and the receiving water course with a 7Q10 of zero near zero would be considered a tier 1 segment.

Outfall 001 *

Dry-ditch * = Tier 1

A discharge to a tier 1 water that empties into a tier 2 water would have to be evaluated for antidegradation at the point of confluence of the two water courses, if the discharge is in close enough proximity to impact the tier 2 water. In the above scenario, antidegradation requirements to protect tier 2 waters may apply to a discharge to a tier 1 water. Therefore, effluent limits may be more stringent than required by the numerical water quality standards.

If a discharge occurs to a dry ditch or tributary that empties into a free flowing stream and the distance from the discharge to the next confluence is too short to model (based upon the current modelling programs), then the discharge should be modelled as if it occurs directly to the free flowing stream.

2.4.8 Estuaries - Wasteload Allocations & TMDL Development

Similar to freshwater streams, water quality wasteload allocations (WQWLAs) and TMDLs in all tidal influenced waters will be expressed as a mass limitation for the conventional parameters (BOD_5, $cBOD_5$, TKN, and NH_3) and as a concentration for toxics.

Tidal freshwater segments and transition zone segments identified

Attachment 1 T 1

Tier 1 Justification for Low Flow Streams

DEPARTMENT OF ENVIRONMENTAL QUALITY

WATER DIVISION

OFFICE OF WATER RESOURCE MANAGEMENT

(SECOND DRAFT)

GUIDANCE MANUAL

FOR THE

VIRGINIA WATER QUALITY MANAGEMENT PLAN

March 4, 1994

Attachment 1-2

Small Coastal and Chesapeake Bay

TABLE B2 - EASTERN SHORE WASTELOAD ALLOCATIONS

NAME	RECEIVING STREAM OR ESTUARY	INTERIM WASTELOAD ALLOCATIONS[1] (Current Permit Limits) BOD_5 (lb/d)	SUSPENDED SOLIDS (lb/d)	OIL & GREASE (lb/d)	FINAL WASTELOAD ALLOCATIONS BOD_5 (lb/d)	SUSPENDED SOLIDS (lb/d)	OIL & GREASE (lb/d)
Commonwealth of Va. Rest Area	Pitts Cr.	4.3	4.3	--	4.3	4.3	--
Edgewood Park	Bullbegger Cr.	0.80	0.80	--	0.80	0.80	--
Holly Farms	Sandy Bottom Cr.	167[3]	167[3]	10 mg/l	Stream survey/model and determination of final wasteload allocations planned for the summer of 1980.		
Taylor Packing Company	Messongo Cr.	7006[3]	13010[3]	--	Stream survey/model was run previously. No change in permit anticipated.		
No. Accomack E.S.	Messongo Cr.	1.8	1.4	--	1.8	1.4	--
Messick & Wessels Nelsonia	Muddy Cr.	30mg/l[4]	30mg/l[4]	--	Interim wasteload allocations may be changed based on BAT guidance.		
Whispering Pines Motel	Deep Cr.	4.8	4.8	--	4.8	4.8	--
Town of Onancock	Onancock Cr.	21	21	--	21	21	--
Messick & Wessels	Onancock Cr.	30mg/l[4]	30mg/l[4]	--	Interim wasteload allocations may be changed based on guidance.		
So. Accomack E.S.	Pungoteague Cr.	1.8	1.4	--	1.8	1.4	--
A & P Exmore	Nassawadox Cr.	0.38	0.38	--	0.38	0.38	--
Norstrom Coin Laundry	Nassawadox Cr.	60mg/l[4] max.	60mg/l[4] max.	--	Interim wasteload allocation may be changed based on BAT guidance.		
NH-Acc. Memorial Hospital	Warehouse Cr.	12.5	12.5	--	21.5	12.5	--
Machipongo E.S. & H.H. Jr. High	Trib. To Oresbus Cr.	5.2	5.2	--	5.2	5.2	--
Town of Cape Charles	Cape Charles Harbor	62.6	62.6	--	62.6	62.6	--
America House	Chesapeake Bay	5	5	--	5	5	--
U.S. Coast Guard Chesapeake Bay	Chesapeake Bay	--	--	10/mgl[5]	--	--	10/mgl[5]
U.S. Government Cape Charles AFB	Magothy Bay	Currently No Discharge					
Exmore Foods (Process Water)	Trib. To Parting Cr.	200	100	--	Stream survey/model and determination of final wasteload allocations planned for the summer of 1980.		
Exmore Foods (Sanitary)	Trib. To Parting Cr.	30mg/l[5]	30mg/l[5]	--	30mg/l[5]	30mg/l[5]	--
Perdue Foods (process water)	Parker Cr.	May-Oct 275 367 Nov-Apr. 612 797	--	--	Interim Permit in process. Stream survey/models were run. No substantial change in permit anticipated. * See attached		
Perdue Foods (parking lot)	Parker Cr.	30mg/l[5]	30mg/l[5]	--	30mg/l[5]	30mg/l[5]	--
~~Accomack Nursing Home~~	~~Parker Cr.~~	~~2.7~~	~~2.6~~		~~2.7~~	~~2.6~~	
U.S. Gov't NASA Wallops Island	Mosquito Cr.	75	75	--	75	75	--
~~U.S. Gov't NASA Wallops Island~~	~~Cat Cr.~~	~~1.25~~	~~1.25~~		~~1.25~~	~~1.25~~	
F & G Laundromat	Chincoteague Channel	10	4.8	--	Interim wasteload allocations may be changed based on BAT guidance.		
U.S. Coast Guard	Chincoteatue Channel	--	--	15mg/l (max.)	--	--	15mg/l (max.)
Virginia- Carolina Seafood	Chincoteague Bay	342	264	5.5	342	264	5.5
Reginald Stubbs Seafood Co. (VA0005813)	Assateague Channel	--	20	95	--	20	95
Reginald Stubbs Seafood Co. (VA00056421)	Assateague Channel	--	20	98	--	20.4[2]	98
Shreaves	Chincoteague Bay	--	16[2]	1.4[2]	--	16[2]	1.4[2]
Chincoteague Seafood	Chincoteague Bay	342	264	5.5	342	264	5.5

Attachment 2-1

10B, 11B, 12B	Trammel-McClure	WQ	Permit to be issued in future			Not on priority list.
9T	Wise	WQ	0.28	112	112	Step I in progress (with Norton).

[1] Dischargers are shown on Plate 3-B (Map No. with "B" designates Big Sandy) and 3-T (Map No. with "T" designates Tennessee).

[2] Effluent Limiting (EL) or Water Quality (WQ).

[3] For existing sewage treatment facility.

[4] For new sewage treatment facility.

*Seasonal NPDES allowable loading: April to September/October to March.

Source: Thompson & Litton and State Water Control Board.

9 VAC 25-720-100. Chowan Rive-Dismal Swamp River Basin (Reserved).

9 VAC 25-720-110. Chesapeake Bay – Small Coastal – Eastern Shore River Basin.

A. Total maximum Daily Load (TMDLs).

B. Stream segment classifications, effluent limitations including water quality based effluent limitations, and waste load allocations.

Small Coastal and Chesapeake Bay-

TABLE B1 - CURRENT STREAM SEGMENT CLASSIFICATION

Segment No.	Name	Current State Class
7-12A	Pocomoke Sound	EL
7-12B	Messongo Creek	EL
7-12C	Beasley Bay	EL
7-12D	Chesconessex Creek	EL
7-13	Onancock Creek	WQ
7-14	Pungoteague	WQ
7-12E	Nandua Creek	EL
7-15	Occohannock Creek	WQ
7-12F	Nassawadox Creek	EL
7-12G	Hungars Creek	EL
7-12H	Cherrystone Inlet	EL
7-12I	South Bay	EL
7-12J	Tangier Island	
7-11A	Chincoteague	EL
7-11B	Hog Bogue	EL
7-11C	Metomkim Bay	EL
7-11D	Machipongo River	EL
7-11E	South Ocean	EL

Attachment 2-2

WLA for VA0024457 - NASA Wallops Flight Fac.

DEQ ID	Closure	Growing Area	Stream Name	County	Size	TMDL Pollutant	Use	WLA	Permits	TMDL Completion	EPA Approval Date
VAT-D01E-14	032A	100	Little Mosquito Creek	Accomack	9597 ac	FC	Shellfish	5.15E+08	VA0024457	Y	01/08

Attachment 3-1

COMMONWEALTH of VIRGINIA
Department of Health
DIVISION OF SHELLFISH SANITATION
109 Governor Street, Room 614-B
Richmond, VA 23219

Ph: 804-864-7487
Fax: 804-864-7481

MEMORANDUM

DATE: 3/3/2009

TO: Mark H. Sauer
Department of Environmental Quality

FROM: Robert E. Croonenberghs, Ph.D., Director
Division of Shellfish Sanitation

SUBJECT: Project Comments: US NASA Wallops Flight Facility

City / County: Accomack

Waterbody: UT to Little Mosquito Creek

Type: ☑ VPDES ☐ VMRC ☐ VPA ☐ VWP ☐ JPA ☐ Other:

Application / Permit Number: VA0024457

☐ The project will not affect shellfish growing waters.

☐ The Division has no comments on the proposal. The project will involve approved shellfish growing waters, though a change in classification will not be required.

☑ The Division has no comments on the proposal. The project will affect condemned shellfish growing waters and will not cause an increase in the size or type of the closure.

☐ The project will affect condemned shellfish waters and will not cause an increase in the size of the total condemnation. However, a prohibited area (an area from which shellfish relay to approved waters for self-purification is not allowed) will be required within a portion of the currently condemned area. See comments.

☐ A buffer zone (including a prohibited area) has been previously established in the vicinity of this discharge, however, the closure will have to be revised. Map attached.

☐ This project will affect approved shellfish waters. If this discharge is approved, a buffer zone (including a prohibited area) will be established in the vicinity of the discharge. Map attached.

☐ Other.

ADDITIONAL COMMENTS:

Area #: 100

bks

COMMONWEALTH of VIRGINIA

KAREN REMLEY, MD MBA FAAP
STATE HEALTH COMMISSIONER

Department of Health
OFFICE OF DRINKING WATER
SOUTHEAST VIRGINIA ENGINEERING FIELD OFFICE

630 SOUTHAMPTON AVENUE, ROOM 2058
NORFOLK, VIRGINIA 23510-1001
PHONE (757) 683-2000
FAX (757) 683-2007

MEMORANDUM

TO: Mark H. Sauer
Environmental Engineer Senior
Department of Environmental Quality – Tidewater Regional Office

DATE: MAR 0 2 2009

FROM: Daniel B. Horne, P.E.
Engineering Field Director DBH

CITY/COUNTY: ACCOMACK

PROJECT TYPE: ☐ New ☒ Renewal or Revision

☒ VPDES ☐ VPA ☐ VWPP ☐ JPA ☐ Other: _____

☒ Number: VA 0024457

OWNER/APPLICANT: NASA/NASA-GSFC-WFF

PROJECT: NASA Wallops Flight Facility

☒ There are no public water supply raw water intakes located within 15 miles downstream or within one tidal cycle upstream of the discharge.

☐ The raw water intake for the _____ waterworks is located _____ miles [downstream/upstream] of the discharge. This should be a sufficient distance to minimize the impacts of the discharge. We recommend a minimum Reliability Class of ____ for this facility.

☐ The raw water intake for the _____ waterworks is located _____ miles [downstream/upstream (within one tidal cycle)] of the discharge.

☐ Please forward a copy of the Draft Permit for our review and comment.

☐ Comments:

Prepared by: Dixon W. Tucker
Dixon W. Tucker, P.E.
District Engineer

pc: V.D.H. - Office of Drinking Water, Field Services Engineer

R:\DIST22\Accomack\NASA Flight Facility\VA0024457_209.doc

ATTACHMENT 10

TABLE III(a) AND TABLE III(b) - CHANGE SHEETS

TABLE III(a)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
021 - 024	Outfalls added to the permit	No monitoring is included in the permit	No monitoring is included in the permit	Storm water outfalls that are not associated with industrial activities, but are point sources of storm water, so they have been included in the permit	
031-036	Outfalls added to the permit	No monitoring is included in the permit	No monitoring is included in the permit	Storm water outfalls that are not associated with industrial activities, but are point sources of storm water, so they have been included in the permit	

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
037, 038, 039	Flow, TSS, TPH pH	None / 1/6 months None / 1/6 months	None / NL None / 6.0 SU - 9.0 SU	New outfalls that have storm water and non-storm water components.	

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
Schedule of Compliance for e. coli and total copper	Compliance schedule has been removed from the permit; time frame in the schedule is up, limits are now effective.	

TABLE III(b)

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 11

EPA PERMIT CHECKLIST

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: US NASA Wallops Flight Facility

NPDES Permit Number: VA0024457

Permit Writer Name: Mark Sauer

Date: 6/29/09

Major [ ] **Minor** [✓] **Industrial** [ ] **Municipal** [✓]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	✓		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	✓		
3. Copy of Public Notice?		✓	
4. Complete Fact Sheet?	✓		
5. A Priority Pollutant Screening to determine parameters of concern?	✓		
6. A Reasonable Potential analysis showing calculated WQBELs?	✓		
7. Dissolved Oxygen calculations?		✓	
8. Whole Effluent Toxicity Test summary and analysis?			✓
9. Permit Rating Sheet for new or modified industrial facilities?			✓

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility?		✓	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	✓		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	✓		

I.B. Permit/Facility Characteristics - cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		✓	
5. Has there been any change in streamflow characteristics since the last permit was developed?		✓	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?		✓	
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	✓		
8. Does the facility discharge to a 303(d) listed water?		✓	
a. Has a TMDL been developed and approved by EPA for the impaired water?	✓		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			✓
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	✓		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?		✓	
10. Does the permit authorize discharges of storm water?	✓		
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		✓	
12. Are there any production-based, technology-based effluent limits in the permit?		✓	
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		✓	
14. Are any WQBELs based on an interpretation of narrative criteria?		✓	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		✓	
16. Does the permit contain a compliance schedule for any limit or condition?		✓	
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		✓	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	✓		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		✓	
20. Have previous permit, application, and fact sheet been examined?	✓		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs

(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	✓		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	✓		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	✓		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?			✓

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	✓		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	✓		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	✓		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	✓		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		✓	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	✓		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	✓		
II.D. Water Quality-Based Effluent Limits – cont.	**Yes**	**No**	**N/A**
3. Does the fact sheet provide effluent characteristics for each outfall?	✓		

4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	✓		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	✓		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			✓
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	✓		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?	✓		
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	✓		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	✓		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	✓		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	✓		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	✓		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	✓		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	✓		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		✓	
4. Does the permit require testing for Whole Effluent Toxicity?		✓	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	✓		
2. Does the permit include appropriate storm water program requirements?	✓		

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			✓
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	✓		

5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		✓	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		✓	
a. Does the permit require implementation of the "Nine Minimum Controls"?			✓
b. Does the permit require development and implementation of a "Long Term Control Plan"?			✓
c. Does the permit require monitoring and reporting for CSO events?			✓
7. Does the permit include appropriate Pretreatment Program requirements?			✓

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	✓		

List of Standard Conditions – 40 CFR 122.41

Duty to comply
Duty to reapply
Need to halt or reduce activity not a defense
Duty to mitigate
Proper O & M
Permit actions
Property rights
Duty to provide information
Inspections and entry
Monitoring and records
Signatory requirement
Bypass
Upset
Reporting Requirements
Planned change
Anticipated noncompliance
Transfers
Monitoring reports
Compliance schedules
24-Hour reporting
Other non-compliance

2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	✓		

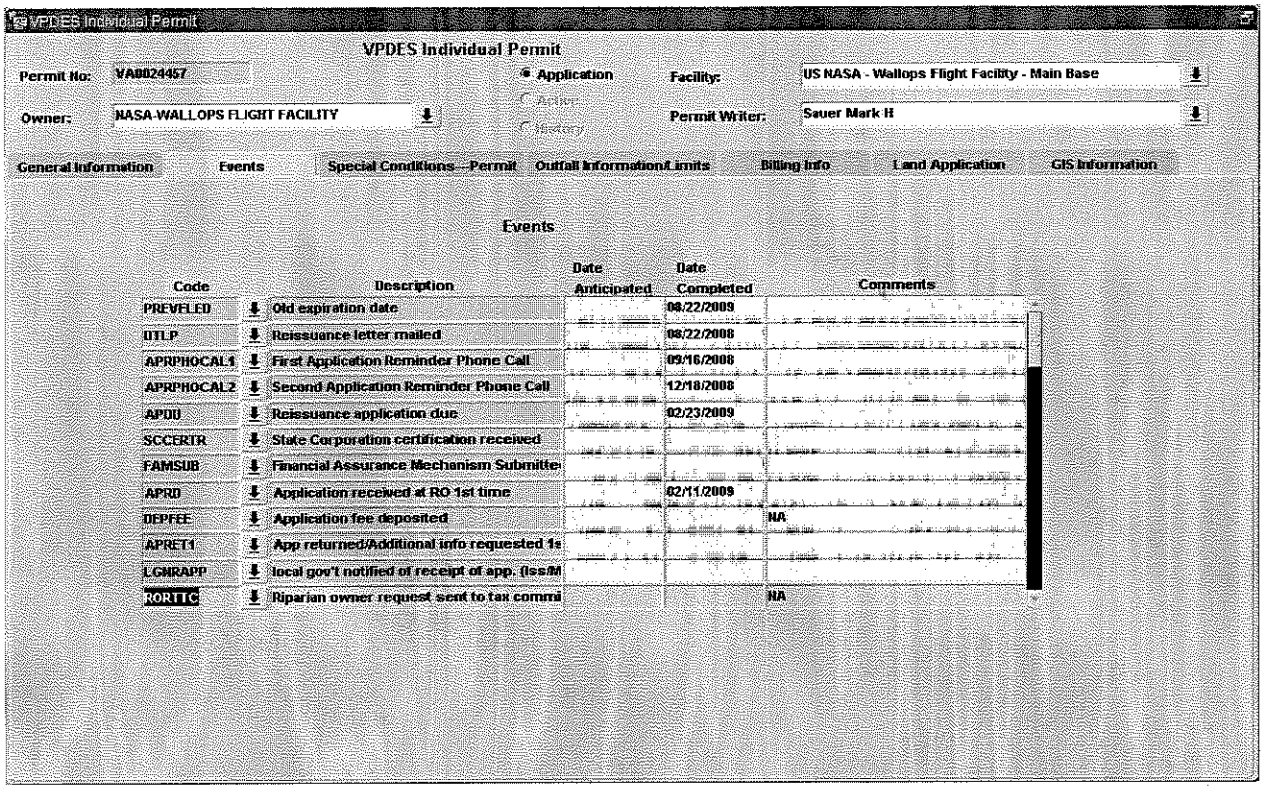
Part III. Signature Page

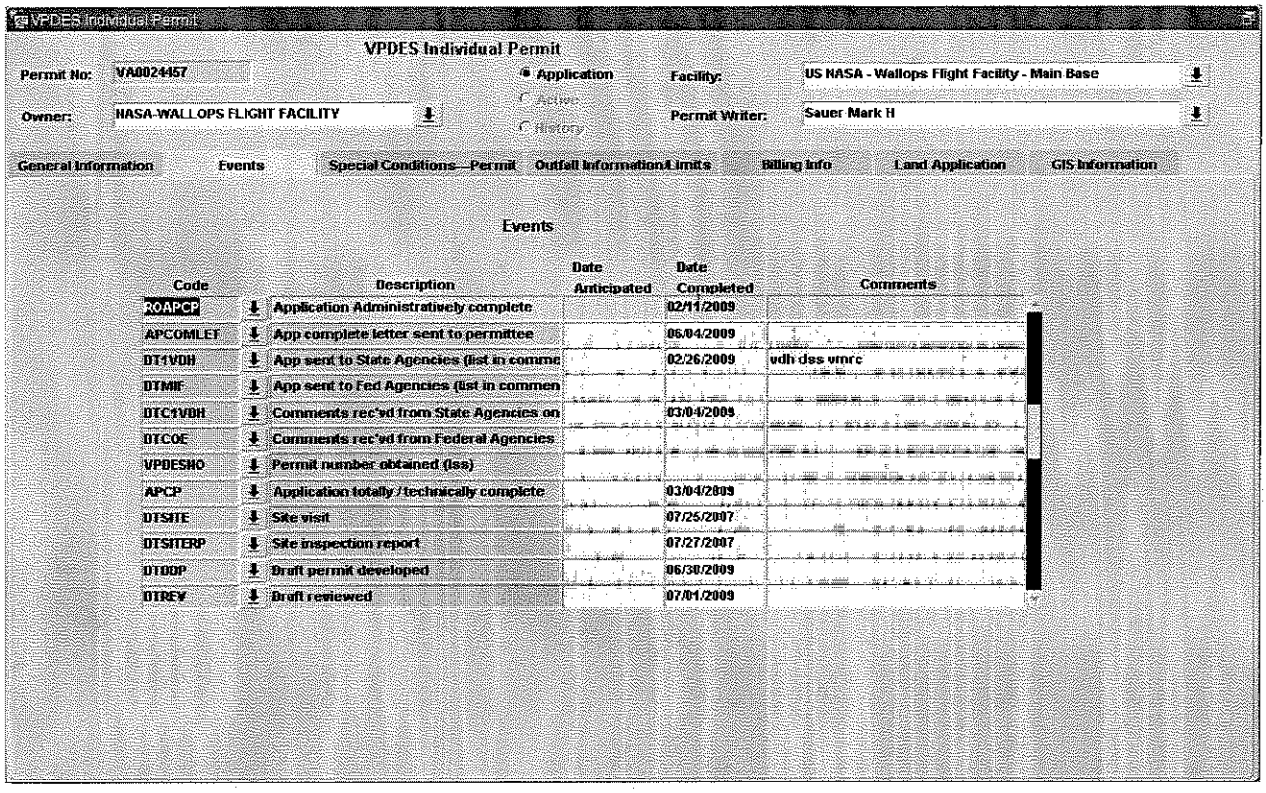
Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Mark Sauer
Title	Permit writer
Signature	
Date	6/29/09

ATTACHMENT 12

CHRONOLOGY SHEET


VPDES Individual Permit
VPDES Individual Permit
Permit No: VA0024457
Application
Facility: US NASA - Wallops Flight Facility - Main Base
Owner: NASA-WALLOPS FLIGHT FACILITY
Permit Writer: Sauer Mark H
General Information
Events
Special Conditions
Permit
Outfall Information
Limits
Billing Info
Land Application
GIS Information
Events
Code
Description
Date Anticipated
Date Completed
Comments
PREVELED
Old expiration date
08/22/2009
IITLP
Reissuance letter mailed
08/22/2008
APRPHOCAL1
First Application Reminder Phone Call
09/16/2008
APRPHOCAL2
Second Application Reminder Phone Call
12/18/2008
APDU
Reissuance application due
02/23/2009
SCCERTR
State Corporation certification received
FAMSUB
Financial Assurance Mechanism Submitte
APRD
Application received at RO 1st time
02/11/2009
DEPFEE
Application fee deposited
NA
APRET1
App returned/Additional info requested 1s
LGNRAPP
local gov't notified of receipt of app. (lss/M
RORTTC
Riparian owner request sent to tax commi
NA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GIS Information
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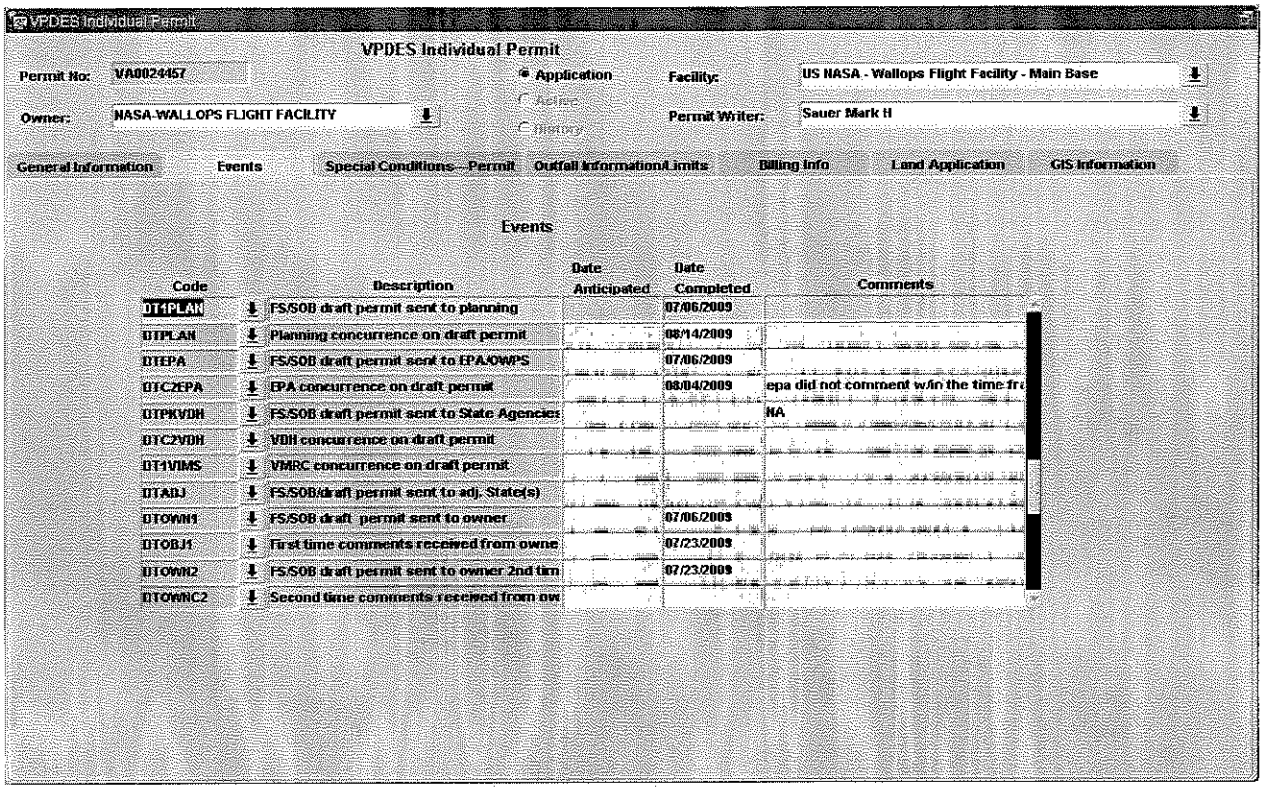
Code
Description
Date Anticipated
Date Completed
Comments
RQAPCP
Application Administratively complete
02/11/2009
APCOMLET
App complete letter sent to permittee
06/04/2009
DT1VDH
App sent to State Agencies (list in comme
02/26/2009
vdh dss vmrc
DTMIF
App sent to Fed Agencies (list in commen
DTC1VDH
Comments rec'vd from State Agencies on
03/04/2009
DTCOE
Comments rec'vd from Federal Agencies
VPDESNO
Permit number obtained (lss)
APCP
Application totally / technically complete
03/04/2009
DTSITE
Site visit
07/25/2007
DTSITERP
Site inspection report
07/27/2007
DTDDP
Draft permit developed
06/30/2009
DTREV
Draft reviewed
07/01/2009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Land Application
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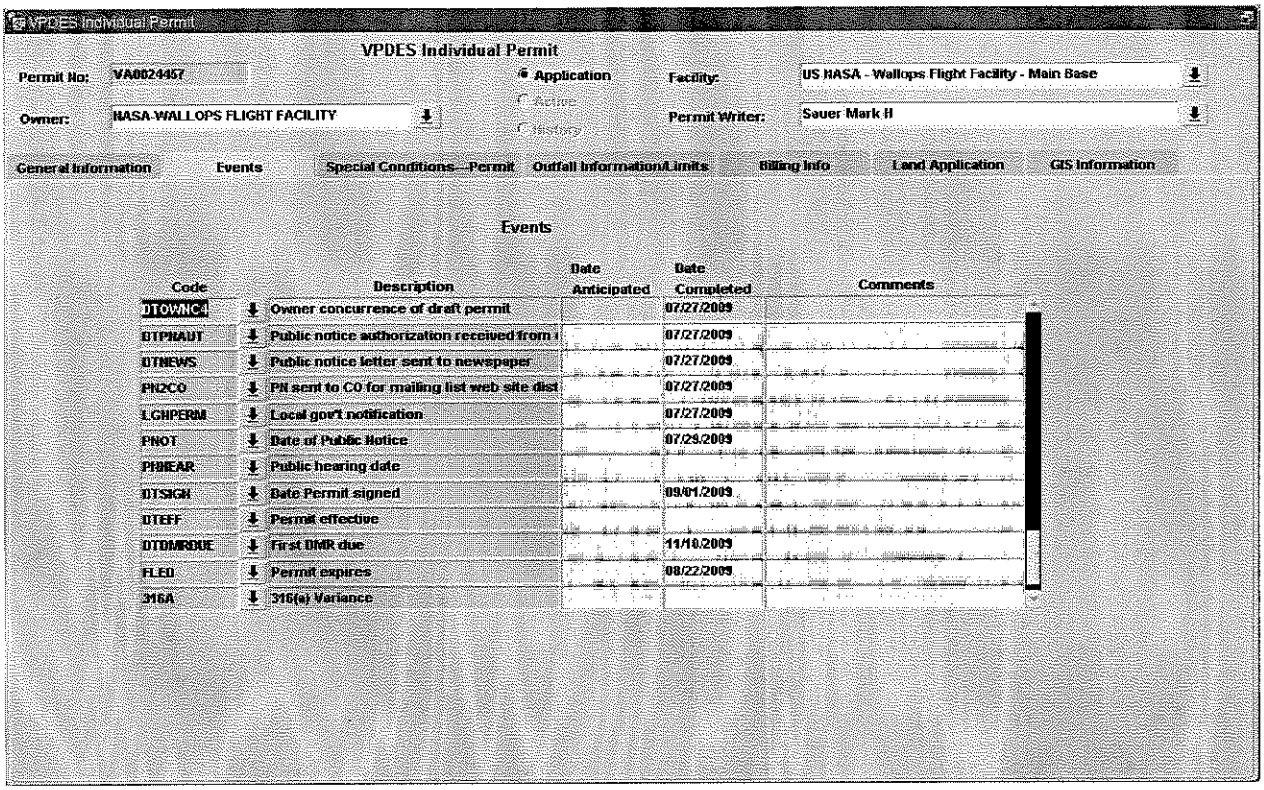
Date Anticipated
Date Completed
Comments
DT1PLAN
FS/SOB draft permit sent to planning
07/06/2009
DTPLAN
Planning concurrence on draft permit
08/14/2009
DTEPA
FS/SOB draft permit sent to EPA/OWPS
07/06/2009
DTC2EPA
EPA concurrence on draft permit
08/04/2009
epa did not comment w/in the time fra
DTPKVDH
FS/SOB draft permit sent to State Agencies
NA
DTC2VDH
VDH concurrence on draft permit
DT1VIMS
VMRC concurrence on draft permit
DTADJ
FS/SOB/draft permit sent to adj. State(s)
DTOWN1
FS/SOB draft permit sent to owner
07/06/2009
DTOBJ1
First time comments received from owne
07/23/2009
DTOWN2
FS/SOB draft permit sent to owner 2nd tim
07/23/2009
DTOWNC2
Second time comments received from ow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GIS Information
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Code
Description
Date Anticipated
Date Completed
Comments
DTOWNC4 Owner concurrence of draft permit 07/27/2009
DTPNAUT Public notice authorization received from I 07/27/2009
DTNEWS Public notice letter sent to newspaper 07/27/2009
PN2CO PN sent to CO for mailing list web site dist 07/27/2009
LGHPERM Local gov't notification 07/27/2009
PNOT Date of Public Notice 07/29/2009
PHHEAR Public hearing date
DTSIGN Date Permit signed 09/01/2009
DTEFF Permit effective
DTDMRDUE First DMR due 11/10/2009
FLED Permit expires 08/22/2009
316A 316(a) Variance